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THE

AMERICAN PRACTICE OF MEDICINE,

REVISED, ENLARGED, AND IMPROVED:

BEING

A PRACTICAL EXPOSITION

OF

PATHOLOGY, THERAPEUTICS, SURGERY, MATERIA MEDICA, AND PHARMACY,

ON

REFORMED PRINCIPLES;

EMBRACING

THE MOST USEFUL PORTIONS OF THE FORMER WORK, WITH CORRECTIONS, ADDITIONS, NEW REMEDIES, AND IMPROVEMENTS; AND EXHIBITING THE RESULTS OF THE AUTHOR'S INVESTIGATIONS IN MEDICINE IN THIS COUNTRY, AND IN A YEAR'S TOUR IN EUROPE.

BY W. BEACH, M. D.,

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ILLUSTRATED BY THREE HUNDRED ENGRAVINGS.

IN THREE VOLUMES.
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EXPLANATION OF PLATES

IN

VOLUME III.

The plates of this volume are mostly botanical, and these are inserted and described in their appropriate places.

PLATE V.—*Page* 414.

Representation of HOOPER'S IMPROVED APPARATUS for manufacturing VEGETABLE EXTRACTS; showing the mode of obtaining the virtues of a plant, in a concentrated form, without a loss of its active principles and medical virtues.

FIG. 1.—The root-crusher. The vegetables pass between two cylinders, and drop into a receptacle below.

FIG. 2.—Hydraulic press, under which the juice of the crushed roots or plants is pressed out, placed in a vessel (fig. 4), and strained; then transferred into a large evaporating pan, B, and by the mill, A, a speedy evaporation takes place, leaving the extract pure, and of the natural color, as seen in fig. 3.

FIG 5.—Appearance of the same extract, as made in the old way; having undergone more or less decomposition.

A steam-engine is used in the process.

PLATE CIII.—*Page* 572.

Effects of arsenic when taken to commit suicide—coats of the stomach extensively corrugated, with inflammation of the parts immediately acted upon; gangrenous spots, erosion and destruction of the muscular and mucous tissues of the stomach. Often excoriation and ulceration of the anus.

PLATE CI.—*Page* 578.

The effects of corrosive sublimate, the strongest preparation of mercury—the coats of the stomach are soon corroded, and disorganized with gastritis; there are black gangrenous spots on the parts immediately affected.

PLATE LXI.—*Page* 580.

Shows the effects of poison by sulphuric acid.

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THE

AMERICAN PRACTICE OF MEDICINE.

PART I.

MATERIA MEDICA.

SECTION I.

INTRODUCTORY.

By the term *materia medica*, we understand that part of medical science which treats of the nature, composition, and relation, of the various substances which are employed in the prevention, cure, and mitigation of diseases: also the effect of those substances on the human body. It embraces botany, chemistry, and natural history. These substances are found scattered by the hand of Nature over the whole surface of the globe, and very many of them serve no other purpose, as far as we can discover, than to assuage the maladies of mankind. They have been the subject of study and attention from the earliest history of our race until the present time; and new agents are continually being found, as well as new properties in those already discovered. This fact prevents the formation of a *strictly definite* medical classification of the substances we employ, and it will not be attempted in this work; but for convenience sake, and as an approach to something like a system in the subject, we shall adopt the following

ORDER OF ARRANGEMENT:—

The articles recognised in "The American Reformed Practice of Medicine," and designated as agents in the cure and mitigation of disease, are BOTANIC SIMPLES, and MINERALS, SALTS, &c. By far the most important of these two are those derived from the vegetable kingdom; and when we consider the vast amount of resources there found, and the continual accession which the light of modern science and observation is constantly making to them, that would hardly be deemed an extravagant opinion which should predict the final abolition of the other in the treatment of disease. BOTANIC SIMPLES consist of—

1. *Roots*, which should be collected in the spring, before the sap begins to rise, or in the fall after the top of the plant is dead.

2. *Barks*, stripped from the tree or shrub any time when the sap prevents it from adhering to the wood; the rough exterior portion shaved off, and the clean bark dried in the shade.

3. *Herbacean plants*, collected at mature growth or while in blossom, and dried in the shade; their virtues, however, are not essentially diminished any time before frost appears.

4. *Flowers and seeds*, gathered when fully ripe, and likewise dried in the shade. All vegetables, after having been dried, should be kept from the air, and preserved air-tight, or in a dry place. In this way they may be preserved for many years without losing any of their medicinal properties. The method adopted by the society of Shakers is admirably adapted to preserve them. They press roots, plants, &c., after having been properly dried, by means of a screw, into cakes, which are very handsome, and their flavor and virtues often remain unimpaired for a number of years.

It is scarcely possible, however, to administer remedies in the same state as furnished by nature; their form, volume, hardness, and their state of impurity, prevent it. It is consequently necessary to submit them to certain preparations, in order to either change their state, or develop and render more sensible their virtues, or finally to impart to them some new properties by combining these articles with others. It is by means of comminution, extraction, solution, mixture, tincture, and combination, that these objects are attained; which properly belong to the subject of PHARMACY, and will be fully treated of under that head.

SECTION II.

PROXIMATE PRINCIPLES OF PLANTS.

THE application of chemistry to vegetable substances belonging to the materia medica, as far as it relates to their *ultimate* analysis, has hitherto proved of little utility in discovering much satisfactory relation between the composition and the medical powers or properties of the substance analyzed. The *proximate* principles which chemistry develops in many plants are at present well known, and although it is true that the general individual properties of each of these principles are tolerably well understood, yet as found compounded by the hand of Nature in different specimens and at different seasons in the same specimens, little will be gathered in this study which can materially aid the practical physician in the course of his duties. I have endeavored, when treating of Medical Botany in this volume, under the head of the specific plants we use, to omit much of the results of chemical analysis, but it will be found that I have carefully preserved and recorded every fact which can be of practical use to the physician.

Chemistry shows the active principles of medical plants to be numerous, and of very different kinds. They are not all to be met with in every vegetable; some exist only in certain plants, and that only in their state of vigor or maturity; at other times they are to be found only in particular organs; others are diffused through the whole substance of the vegetable, and mixed more or less intimately with all its parts; and some are nearly peculiar to certain vegetables, while others are common almost to every plant. Those only need here be pointed out which are connected with medicinal properties.

These principles are the products of vegetation from a common juice or sap, which circulates freely through every part, being supplied by absorption from the soil, and perhaps from the atmosphere. It varies in its qualities, according to the season, and the progress of the plant to maturity; frequently, too, it has an intermixture of the proper juices; it always contains the usual elements of vegetable matter, with generally saline substances, having principally lime for their base.

GUM.—The first transition of the sap appears to be into mucilage, or gum, one of the proximate principles contained in greatest abundance in vegetables. Gum is the name given to the principle when it is obtained in a concrete state: mucilage is the name given to it as expressed in a liquid state, or extracted by maceration in water. This principle is found in all young plants, in a greater or less quantity, and is often so abundant as to be discharged by spontaneous exudation. It abounds also in their roots, stalks, and leaves, and especially in their seeds; it is an inodorous, insipid, and glutinous substance, soluble in water in every proportion, and forming with it a thick, viscid solution, which, by evaporation, affords a tenacious mass, that when dried is again soluble, and very brittle. Exposed to heat, it is neither fusible nor volatile. It is not inflammable; for although, when heated in contact with atmospheric air, it combines with oxygen, it emits no flame. Gum is usually obtained by spontaneous exudation, or by incisions made in the trunks and branches of trees. It is more or less pure, as it is obtained from different plants. Its existence in vegetables is detected by boiling gently the vegetable substance with water; the water dissolves the gum, and if much of that principle be present, the solution is glutinous. It may be allowed to remain till the impurities have subsided; if it then be allowed to evaporate to the consistence of thin syrup, the addition of three parts of alcohol will separate the whole of the gum in flakes.

Pure gum is not an active substance, considered with respect to its effect on the living system. In medicine it is only used for its lubricating quality; and so little activity does it exert, that it has often been taken for a considerable time as an article of food. In pharmacy, it is used as a medium to combine balsams, resins, and oils, with water. Though pure gum is inactive, yet the virtues of many vegetables depend on a gummy or mucilaginous matter.

FECULA is a principle approaching in several of its characters to gum. Like it, it is soluble in hot water, and forms a viscid, glutinous solution; but it is at once distinguished by being perfectly insoluble in cold water. It exists principally in the tuberous roots and gramineous seeds. It is extracted by beating the dried root or seed with a large quantity of water: the liquid soon becomes milky from the diffusion of a white powder through it. On being poured from the remaining vegetable matter, and allowed to remain at rest, this powder is deposited, and when washed and dried, is the fecula of the plant. It is generally mild and insipid, of a white color, with a peculiar kind of brilliancy, and is soft to the touch. Starch is the fecula of wheat, and is the most abundant part of that grain. Fecula is insoluble in alcohol; it is highly nutritive, and is usually contained in those plants which serve as food. It is sometimes employed, in its pure state, in medicine, on account of its nutritive quality, and from being easy of digestion. Sago and sallop are substances of this kind.

GLUTEN.—This principle is usually associated with fecula, and is obtained in the process in which the fecula is separated. It then appears as a viscous, elastic, and fibrous-like substance, which, from its resemblance to the animal product named gluten, has been denominated vegetable gluten. It is obtained from the flour of wheat in the greatest abundance; the flour is made into a paste with water, which being compressed by the hand, while a stream of water falls upon it, the fecula is carried off in the state of powder, the mucilaginous and saccharine parts of the grain are dissolved by the water, and there remains a tenacious, ductile mass, forming the gluten. It has scarcely any taste, is of a grayish color, and when dried is semi-transparent. It is insoluble in water, and is dissolved in very small quantities by alcohol. It contains a larger proportion of nitrogen than any vegetable product does, and it is supposed to render those vegetables in which it is present highly nutritive.

SACCHARINE MATTER.—This exists in many vegetable substances, especially in their fruits and roots, but often intimately united with their mucilaginous and extractive matter. When freed from these, its taste is sweet, without any peculiar flavor; it is soluble in water and in alcohol. By the action of nitric acid, it is converted into oxalic acid.

OIL is a common proximate principle of vegetable matter; it is of two kinds—expressed or fat oil, and distilled, volatile, or essential oil. These have the common qualities of unctuosity and imflammability; but they also possess peculiar properties by which they are distinguished as species.

The expressed, fat, or fixed oils, are thick and unctuous, insipid and inodorous. They congeal on exposure to cold, are lighter than water, and insoluble in that liquid; they are likewise insoluble in alcohol, except in minute quantities; and they combine with the alkalies, forming soap. They are not volatilized at the temperature of two hundred and twelve degrees. Some require to be raised six hundred degrees to make them boil, and the condensed oil is changed in its properties. These oils are contained in the seeds and fruit of vegetables, at the period of their maturity. They are extracted by expression or decoction with water; they are frequently impregnated with part of the extractive, mucilaginous, or resinous parts, which the seed or fruits contain, from which they derive color and in many cases a peculiar taste and odor, and even perhaps certain medicinal powers. They are mild and emollient, and are used principally for these qualities. They are rendered mixable with water by the medium of gum or sugar, or by the addition of a small quantity of an alkali.

Volatile or essential oils have characteristic properties different from those of expressed oils. They are volatile at a low temperature, and are entirely and quickly converted into vapor at the heat of boiling water, without being decomposed; they are soluble in a small proportion in water, and hence the taste and flavor which water receives from many vegetables by distillation. In alcohol they are completely soluble; they are generally odoriferous, pungent, and even acrid; they are more highly inflammable than the fixed or expressed oils.

RESIN.—This principle is in some measure connected with essential oil, and in plants is often united with it, as well as with other principles. Some vegetables, however, exude juices, which concrete into matter entirely resinous, and it is from these that the characters and substances belonging to this genus are taken. The distinguishing properties of a resin are its existing in a solid state, being insoluble in water, but soluble in alcohol, ether, and oil; the solution in ether or alcohol is decomposed by water. Resins are in general odorous and sapid, though neither of these qualities is essential to a pure resin; they are inflammable, and burn with much smoke; at a temperature nearly that of boiling water they melt, but they can not be volatilized without being decomposed. The existence of a resin in a vegetable is discovered by infusing it in alcohol: this dissolves it, if any is present, and it can then be precipitated from the solution by the addition of water.

BALSAMS are resinous juices, with an intermixture generally of essential oil, and containing always a portion of Benzoic acid. They are usually thick and tenacious, becoming by age concrete. They are odorous and pungent, principally from the essential oil they contain.

EXTRACT.—A principle of considerable importance in the pharmaceutic relations, which is supposed to constitute the acting matter of many vegetables, is what has been named extract or extractive matter. Its leading character is, that it is soluble equally in pure water and in alcohol. By this property it is distinguished from both gum and resin, the one being insoluble in water, the other in alcohol. This principle is supposed to be the base of what are named extracts of plants, preparations formed by boiling vegetables in water, and evaporating the clear liquid to a thick consistence.

TANNIN.—The important medicinal property of astringency appears to be dependent, in vegetable substances, on a peculiar principle called tannin. This principle exists in all the powerful vegetable astringents; it is extracted by maceration with water, and is detected in the infusion by a peculiar test, that of the animal principle denominated gelatine. If a solution of gelatine is adapted to the infusion, it becomes turbid, and a precipitate is thrown down, composed of the tannin and gelatine in combination.

Vegetable Acids.—The acid formed in the juice and other parts of plants is not always the same. Not less than seven acids, different from each other, are of vegetable origin, viz.: gallic, oxalic, malic, citric, tartaric, benzoic, and acetic.

Camphor.—This is a proximate principle found in some vegetables, similar in many of its properties to essential oil. It is a solid substance, of a white color, semi-transparent, having a strong, peculiar smell, and a penetrating taste. It is very sparingly soluble in water, but is abundantly soluble in alcohol; from these solutions it is precipitated by water.

Wax.—Though wax is a substance formed by the bee, yet it is always a product of vegetation. It is yielded by the leaves and fruit, and it is sometimes intimately mixed with resin, gum, or extractive matter of plants. It is insoluble in water, and is soluble in very small quantity, by the aid of heat, in alcohol. It combines with the fixed oils, and melts at a moderate heat in oil.

Albumen.—This principle has been supposed to exist in vegetables, and has been called albumen, from its resemblance to the animal principle of that name. It is soluble in cold water, its solution being coagulated by heat. Like gluten, it is liable to putrefaction, and furnishes a large quantity of ammonia by distillation. This principle has, however, been regarded as a variety of gluten.

SECTION III.

TERMS OF CLASSIFICATION.

The articles made use of in the prevention, cure, and mitigation of disease, are as follows:—

1. Plants.
2. Roots.
3. Flowers.
4. Seeds.
5. Barks.
6. Gums.
7. Balsams.
8. Oils.
9. Extracts.
10. Salts.
11. Minerals.
12. Earthy and animal substances.

The difficulty, in the present state of our knowledge, of accurately classifying medicines with reference to their therapeutical properties, is well understood; for every plant possesses several, and almost every other agent will develop qualities more or less various in the course of their exhibition. Yet the student will expect in a treatise on materia medica some explanation of the mode in which medicines are most commonly arranged; and it is necessary to give definitions, at least of such general terms as continually occur among writers on medical science. Various terms have been introduced into medicine, as indicative of both general and particular kinds of operation, either in health or disease; and those medicines which produce similar operations have been placed in the same classes or orders. We have in some measure followed this order of arrangement, as being in many respects convenient and useful; although, for reasons already hinted at, such a classification must necessarily be imperfect.

ALTERATIVES.—This term is applied to substances which are found to promote a change in the system favorable to recovery from disease, but not with certainty referable to any other class. The design is to change the secretions and thus to purify the blood. Those following are usually called alteratives: burdock, elder-flowers, fever-bush, prickly-ash bark and berries, prince's pine, sarsaparilla, scabish, spotted alder, stilingia, sweet fern, yellow dock, yellow parilla, &c.

ANODYNES.—See *Narcotics.*

ANTACIDS.—These medicines, denominated also *Alkalines*, and which properly include those called *Antilithics* and *Lithontriptics*, correct acidity of the stomach, digestive and other organs, by neutralizing it. They operate merely as palliatives, and should be prescribed in combination with *vegetable tonics;* and in no case ought their administration to be long persisted in. If the difficulty should be in the urinary organs, the alkalies are the well-adapted antacids, as they have a tendency to act more directly upon the kidneys, and thus remove the deposition of the *lithic acid* in the blood. The bi-carbonate of potash we have found the best of all the alkalines.

ANTHELMINTICS, or *Vermifuges*, are agents which have the effect of destroying or expelling worms from the intestines. Some of the active cathartics possess this property, and it is often a judicious practice to administer them in conjunction with the specific vermifuges; the efficacy of which they tend much to increase. These remedies are known to be merely temporary, and it will be requisite, when the worms are expelled, to restore the digestive organs to a healthy state, and to correct a predisposition in them to generate intestinal vermes; for when there is a healthy state of the bowels, worms can not exist. Among these remedies are classed aloes, black alder, black poplar, balmony, blue flag, cowhage, cucumber-tree, garlic-juice, gentian, hops, mandrake, oak of Jerusalem, peach-leaves, pink-root, pomegranate, rue, spirits of turpentine, tansy, white-cedar oil, white poplar, whitewood, wormseed, wormwood, &c.

ANTISEPTICS.—These are substances employed to arrest the process of putrefaction. Some operate by forming new combinations with matter, and others by a species of stimulating action in the vessels, which prevent a stagnation of the fluids of the body; but their various modes of operation are far from being fully understood. They consist of alcohol, capsicum, carbonic acid, charcoal, chlorine, cat-tail flag, gum myrrh, saleratus, saline compounds, sugar, vinegar, volatile oils, water-pepper, wormwood, yeast, yellow dock, &c.

ANTISPASMODICS are substances which have the power of allaying irritation and spasm. This deranged state of the system is the result of so many different causes, that regard must always be had to the *sources* of the irritation in applying the remedy. Thus, under certain circumstances, a *narcotic*, a *sedative*, a *stimulant*, a *cathartic*, or a *tonic*, should be administered as an antispasmodic; yet there are certain medicines which seem to have a control over spasm independent of the exciting causes, and these we group as follows: aconite, ammonia, angelica, asafœtida, black cohosh, camphor, castor, cramp-bark, cuckold, English valerian, ether, hyosciamus, ladies' slipper, lobelia, masterwort, musk, poppy and its preparations, skullcap, skunk-cabbage, &c.

AROMATICS are a grateful class of medicines which are generally stimulant; the principal of which are cloves, cinnamon, seeds of the prickly ash, peppermint, spearmint, summer savory, thyme, &c.

ASTRINGENTS—among which may be classed *Styptics*, *Dessiccants*, and *Constringents*—are articles which are viewed as having the power of contracting the living fibre. Their more immediate effect is to diminish excretion and secretion, having afterward a tonic effect. Different remedies are applicable to the different causes which indicate astringents. Where great irritability exists, *narcotics* are often the most useful internal remedies, either alone or as adjuvants; and in profuse discharges caused by acrid or acid matter, *demulcents* and *antacids* should be preferred, and so on. The principal articles having astringent properties are alum, alum-root, aven's root, bay-berry, beth-root, black alder, black birch, bugle, catechu, cinnamon, cohosh, copperas burnt, cramp-bark, cranesbill, henbane, hardhack, hemlock-bark, kino, marsh rosemary, nutgalls, oak, purple archangel, red raspberry, rose, sumach-bark, sweet fern, tag-alder, uva-ursi, wild-cherry bark, witch-hazel, white pond-lily, yarrow, yellow dock, zinc, &c.

CALMATIVES.—See *Nervines*.

CARMINATIVES.—The articles called carminatives are used to expel wind from the stomach and bowels, to ease pains in colics, and to correct the operation of more active medicines. They are used in practice with good effect, and fulfil all the indications sought for in *aromatics* generally. Among them are angelica root and seeds, anise, burdock-seed, capsicum, caraway-seed, catnep, camomile, cloves, coriander-seed, devil's bit, dill-seed, fennel-seed, ginger, ginseng, ground ivy, hyssop, juniper-berries, lovage root and seeds, masterwort, pennyroyal, peppermint, pleurisy-root, spearmint, summer savory, sweet flag, and thyme.

CATHARTICS, PURGATIVES, LAXATIVES, AND EVACUANTS.—These are medicines which increase the peristaltic motion of the intestines, and thereby produce a preternatural discharge. Cathartics differ as to the part of the intestinal canal on which they act, and in the energy of their operation; and in prescribing them, due attention must be paid to these facts and to the objects desired or the indications they are intended to fulfil. No class of medicines is more liable to abuse than cathartics. They should only be resorted to when plainly indicated, and be discontinued as soon as those indications are fulfilled. In a torpid or inactive state of the liver and intestines, this class of medicines is very important and extremely valuable.* The following are generally used: aloes, blue flag, blue violet, buckthorn, butternut, castor-oil, cream of tartar, croton-oil, culver's root, euphorbia, flowers of sulphur, gamboge, jalap, mandrake, man-root, mountain flax, olive-oil, rhubarb, scammony, senna, stillingia, tamarind, &c.

CATHERETICS.—See *Caustics.*

CAUSTICS—combining *Catheretics*, *Cautherants*, and *Escharotics*—are substances which disorganize or destroy the parts of the body to which they are applied, by a chemical action, combining with the animal matter, and changing their cohesion or composition. Their effects are more or less rapid according to the energy of the agent used, and are generally followed by a local inflammation. Those in general use are acetic acid, alum burnt, bloodroot, chloride of zinc, lunar caustic, nitric acid, mandrake, muriatic acid, pokeroot, potash, wild turnip, &c.

The *vegetable caustic* of our pharmacopœia is very active, and has the advantage of exciting little or no inflammation. It entirely supersedes every other caustic in point of efficacy.

CAUTHERANTS.—See *Caustics.*

CONSTRINGENTS.—See *Astringents.*

CONTRA-STIMULANTS.—See *Nervines.*

CORROBORANTS.—See *Tonics.*

COUNTER-IRRITANTS.—See *Epispastics.*

DEMULCENTS.—These are medicines which obviate and prevent the action of stimulating and acrid substances, by involving them in a mild and viscid matter, which prevents their action on the body. They are of a mucilaginous nature, and have a soothing effect upon the parts; and are consequently much resorted to in diarrhœa, dysentery, irritation of the lungs, inflammation of the urinary passages, and for poultices in applications to the surface. Among these are classed the basswood-bark, buckhorn, brake, comfrey, elm-bark, flaxseed, hollyhock flowers and root, Irish moss, marshmallow, and some of the fixed oils.

DERIVATIVES.—See *Epispastics.*

DESSICCANTS.—See *Astringents.*

DETERGENTS are medicines which operate by cleansing the blood of morbid humors. Detergents have also astringent, nervine, tonic, and other properties, which must be borne in mind in administration. They comprise betony-leaves, black alder, black and blue cohosh, blue flag, burdock, cocash, culver's root, dwarf elder, goldthread, mandrake, sarsaparilla, spotted plantain, tag-alder, bayberry, bittersweet, dandelion, guaiacum-chips, prince's pine, sassafras, balmony, sumach-bark, sweet fern, tamarack-bark, yellow dock, and the alteratives generally.

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* For more full exposition, see Appendix.

DIAPHORETICS act by increasing the natural exhalation by the skin, producing moderate perspiration. When they increase this action so as to produce sweating, they are called *Sudorifics.* As the same agents produce both of these effects, they may be properly designated under the same head. They are a most valuable class of medicines in all febrile and inflammatory diseases. Under the administration of these medicines the surface of the body should be enveloped with muslin or flannel, and kept warm; and in checking diaphoresis, it must be done gradually, by drying the surface with warm towels, diminishing the covering slowly, and cautiously exposing the hands and arms to the air. Sudorifics and diaphoretics consist of the following articles: boneset, calamint, catnep, cayenne, camomile, crawley, cuckold, ginger, ground ivy, hyssop, lovage, masterwort, pennyroyal, peppermint, pleurisy-root, prickly ash, red raspberry, saffron, sage, skullcap, smartweed, summer savory, sweet balsam, thyme, vervain, yarrow, &c.

The *sudorific tincture* and *diaphoretic powder* of our Pharmacopœia we prefer in practice, in connexion with some of the above plants in infusion.

DIAPNOICS.—See *Diaphoretics.*

DILUENTS.—These are medicines which increase the fluidity of the blood. They consist mostly of watery liquors, and water itself is probably under many circumstances the best. They are merely secondary remedies, and are given in acute inflammatory diseases, and to promote the operation of diuretics and diaphoretics.

DIURETICS are medicines which augment the urinary discharge. This effect is produced by different articles in a different manner: some act as direct stimulants to the urinary organs; others on the digestive functions, eliminating through the circulation to the kidneys; and others act primarily upon the stomach and by sympathy upon the urinary organs. Their general effect is to diminish the watery part of the blood, and to absorb the fluid effused into the cellular membrane. Some cathartics in small doses remarkably increase urinary discharge. Saline articles, when given as diuretics, should be greatly diluted, and given at about a blood-warm temperature. Among the diuretics are balsams of copaiva and fir, bittersweet, blue flag, brooklime, buchu-leaves, burdock root and seeds, cleavers, cream of tartar, cuckold, dandelion, dwarf elder, elder-flowers, feverfew, foxglove, Harlæm oil, if pure, Holland gin, horseradish, Jacob's ladder, johnswort, juniper, knotgrass, leverwood, lobelia, masterwort, milkweed, motherwort, nitrate of potash, parsley, pennyroyal, pleurisy-root, potash, prince's pine, pumpkin-seeds, queen's delight, queen of the meadow, rushes, sal-diureticus, smartweed, spearmint, spirits of turpentine, squills, stoneroot, sweet spirits of nitre, uva-ursi, watermelon-seeds, wild carrot, wild lettuce, wintergreen, &c.

EMETICS, or *Vomits*, are substances which excite vomiting independent of any effect arising from the mere quantity introduced. They act either *specifically* or *topically*—specifically when they act by mere injection into the veins, and topically when they produce vomiting only when introduced into the stomach: tartar-emetic is an example of a *specific*, and mustard of a *topical* emetic. Independently of the mere evacuation of the stomach, emetics have a general influence sympathetically upon the entire system. Emetics should be employed generally with great caution, and always so in particular cases—as where there is a determination of blood to the head, in advanced stages of pregnancy, in hernia, in prolapsis uteri, and in diseases of the heart—as they cause too violent action of the muscles. Discrimination also is necessary in prescribing them as to their operation, whether a slow or a rapid operation is desired, and in other respects to assist nature in the precise indications which are to be fulfilled, and to regard the other properties combined in the substance used. This subject is more fully treated of in our Appendix. Blue violet, camomile, ipecacuanha, boneset, bloodroot, lobelia, mayweed, mustard, skunk-cabbage, squills, &c., are ranked among the emetics.

EMMENAGOGUES are those medicines capable of promoting menstrual discharges. Suppression of these discharges is caused by a morbid and debilitated state of the system, and the remedies employed must have reference to this state. When caused by debility, recourse should be had to tonics and stimulants; indeed, stimulating diuretics are frequently the most certain emmenagogues in their operation. Some substances which powerfully stimulate the surrounding organs are often effectual in restoring the menstrual discharge, but tonics are the best to rely upon. The following are esteemed the principal articles belonging to this class: aloes, black cherry, black cohosh, blue cohosh, camomile, feverfew, motherwort, oak of Jerusalem, oil of juniper, pennyroyal, tansy, thyme, preparations of iron, and the whole class of tonics.

EMOLLIENTS—among which may be classed *Demulcents* and *Relaxants*—are substances which diminish the vital tone or cohesion of the tissues of the body, rendering them more lax and flexible; or which operate in such a manner as to obviate and prevent the action of stimulating and acrid substances by involving them in a mild and viscid matter, which prevents their action on the surfaces. They appear to act not only directly upon the part to which they are applied, but also indirectly on remote parts through the medium of the circulation. Their principal use is to palliate symptoms in the treatment of inflammations, painful ulcerations, diseases of the urinary organs, and in poisoning with acrid substances. They comprise albumen of eggs, almonds, arrowroot, basswood, beeswax, comfrey, colt's-foot, elder leaves and flowers, elm-bark, figs, flaxseed, gums Arabic and tragacanth, hollyhock roots and flowers, licorice, marshmallow, mullein, oatmeal, olive-oil, pearl barley, quince-seeds, raisins, sago, spermaceti, starch, sugar, tapioca, &c.

EPISPASTICS, RUBEFACIENTS, COUNTER-IRRITANTS, DERIVATIVES, AND

REVULSIVES.—These are substances which, being applied to the skin, cause irritation, inflammation, and finally produce, if continued, a serous or puriform discharge. They are resorted to principally with a view of removing the diseased condition of some internal organ by producing a new irritation or determination to the surface of the body or to some remote part. Blisters, having a stimulating effect, should generally be avoided; they may occasionally be useful, but in the Reformed Practice are very seldom resorted to. Among the epispastics are ranked acids, ammonia in strong solution and its preparations, bloodroot, cantharides, capsicum, garlics, horseradish, ipecac liniment, mandrake, moxa, mustard, oils of amber, croton, and turpentine, pokeroot, savin ointment, tartar-emetic, wild turnip, &c.

ERRHINES, STERNUTATORIES, AND PTARMICS.—These are terms applied to well-known substances which increase the secretions from the nose and head, and excite sneezing. They are employed in practice to excite suspended respiration, to promote the expulsion of foreign bodies lodged in the air-passages, and in some affections of the head, as headache, catarrh, chronic ophthalmia, colds, influenza, &c. The principal of these are asarabacca, bayberry, bloodroot, laurel, lobelia-leaves, tobacco, white hellebore, &c. In stoppages from colds, and in influenza, perhaps tobacco is the best of the errhines.

ESCHAROTICS.—See *Caustics.*

EXCITANTS.—See *Stimulants.*

EXPECTORANTS, or *Pectorals*, are medicines which promote the secretion and discharge of mucus from the bronchial tubes and lungs. These have no direct or specific action, but operate through the medium of the system generally, relieving or removing the obstruction. Expectorants seem to act either by removing constriction of the pulmonary exhalent vessels, or by stimulating them to an increase of the natural exhalation where it is deficient, or to alter its character when in an unhealthy state. Emetics operate as expectorants by a mechanical action, dislodging the accumulated excretions. Aconite, balsams of fir and Peru, bloodroot, buckhorn brake, boneset, blue violet, cayenne, crawley, devil's bit, elecampane, flaxseed, horehound, hyosciamus, hyssop, Iceland and Irish moss, ipecacuanha, Indian turnip, johnswort, licorice, lobelia, lungwort, onions, pleurisy-root, rock-brake, seneka snakeroot, slippery-elm bark, squills, smartweed, skunk-cabbage, spikenard, wa-a-hoo bark, and white-pine bark, are all esteemed *expectorants*, and are among the best to rely upon.

HYPNOTICS.—See *Narcotics.*

INCITANTS.—See *Stimulants.*

LITHONTRIPTICS.—See *Antacids.*

MASTICATORIES.—See *Sialogogues.*

NARCOTICS—including *Anodynes*, *Hypnotics*, and *Soporifics*—are medicines which diminish the action and powers of the system without any sensible evacuation; and are resorted to for the purpose of producing sleep, calming irritation, and alleviating pain. Their operation is first to stimulate the system, and then to depress action, in proportion to the doses administered. When given as a stimulant, the doses are small and frequently repeated; but to procure sleep, they should be larger and given at more distant intervals, but with a careful regard to habit and age. Much objection has been made to the use of narcotics. I think, however, that it is more the abuse of them which has called for this censure than a discriminate employment of remedies of this class; for my own experience in them has proved that, when properly administered, they afford more prompt, decided, and lasting effects, than any other, and that without any subsequent injury to the system: and in our present state of therapeutical knowledge, no other agents supply the place of them. The relief sometimes afforded by them appears almost magical. Some diseases can with difficulty be controlled without their use. What is required in their administration is the mature judgment of the experienced physician, in whose hands they will perform wonders; and they should never be given where other agents will answer the intention sought for as well. The most material are the aconite, cicuta, henbane, hops, lettuce, poppy and its various preparations.

Nephritics.—These are medicines which act upon the kidneys, and are generally resorted to for diseases of the urinary organs, such as debility, suppressions, or bloody urine. Most of the *Diuretics* would rank in this class, and we select only such as are most prominently recommended: beth-root, bittersweet, blue violet, cleavers, ground ivy, lobelia, parsley, peach-leaves, prince's pine, &c.

Nervines, Calmatives, Contra-stimulants, and Sedatives.—The operation of this class of medicines is directly or primarily to depress the vital powers, without having an exciting or stimulating effect; in this consists their distinctive character from *Narcotics*. They are employed to quiet over-excitement of the nervous and vascular systems, and to impart strength and tone to them. Some of them act directly upon the nervous and others upon the vascular system—a fact which should be borne in mind when prescribing. The doses also must be, in general, proportionate to the degree of excitement present. The agents classed under this head are aconite, ammonia, angelica, asafœtida, balmony, camphor, camomile, cherry-bark, cocash, cohosh, cramp-bark, cuckold, ether, foxglove, ginseng, goldthread, iron and its preparations, knotgrass, ladies' slipper, lobelia, motherwort, peach-leaves, peony, pleurisy-root, prickly ash, skullcap, skunk-cabbage, sweet fern, water-cup, &c., &c.

Pectorals.—See *Expectorants.*

Ptarmics.—See *Errhines.*

Refrigerants, or *Temperants*, are medicines calculated to allay the heat of the body or of the blood, and to produce a sensation of coolness to the parts. Their principal use is in the treatment of febrile and inflammatory diseases, where their action appears to be sympathetic on the stomach, occasioning a transient reduction in the force of the circulation. During their administration, also, irritability is allayed, and the morbid sensations of heat, thirst, and nausea, are diminished. The principal refrigerants are the citric and tartaric acids, houseleek, nitrate of potash, juices of the orange and lemon, mulberries, sorrel, vinegar, wood-sorrel, &c.

RELAXANTS.—See *Emollients.*

REVULSIVES.—See *Epispastics.*

RUBEFACIENTS.—See *Epispastics.*

SEDATIVES.—See *Nervines.*

SIALOGOGUES, or *Masticatories*, act as local stimulants, exciting a preternatural flow of saliva. We should properly confine the term to those articles employed in medicine as direct stimulants to the salivary glands; but medicines for this purpose are seldom resorted to in the treatment of disease. Among them are horseradish, lobelia, mezereon, pellitory of Spain, tobacco, &c.

STERNUTATORIES.—See *Errhines.*

STIMULANTS, EXCITANTS, and INCITANTS, are terms applied to medicines which excite an action on the living body. General stimulants resemble in some measure the action of tonics, and some are closely related to narcotics; so that no general rule can be given for their administration in disease. The therapeutical effects of the agent resorted to must be well considered when it is wished to exhibit it as a stimulant. The stimulants are beneficial if kept within a proper limit; but no class of medicines are more liable to abuse. They should only be given when a diminished action is observable in the vital powers, and must be discontinued when no longer distinctly indicated; otherwise the disease for which they are administered will only be aggravated. Hence the frequent and continued use of capsicum in febrile and inflammatory diseases has proved so prejudicial. The substances gathered under this class are exceedingly numerous, and we can only name a few of them: alcohol, ammonia, angelica-seed, anise-seed, blue flag, camphor, caraway, cardamon-seed, cayenne, cinnamon, cloves, cubebs, elecampane, ether, fennel-seed, ginger, grains of paradise, horseradish, orange-peel, lavender, magnolia, mustard, nutmegs, oil of rosemary, oil of turpentine, pennyroyal, peppermint, prickly-ash bark and berries, red and black pepper, spearmint, summer savory, Virginia snakeroot, wines, &c.

STYPTICS.—See *Astringents.*

SUDORIFICS.—See *Diaphoretics.*

TEMPERANTS.—See *Refrigerants.*

TONICS, or *Corroborants*, are those articles which increase the tone of the animal fibre, by which strength is given to the system, and the appetite and digestion improved. They are to a certain extent stimulants, but the excitement is more slowly produced and is permanent. No class of medicines, except perhaps the *Narcotics*, requires more discrimination in administration than these, and like stimulants must be resorted to when a diminished vital power plainly indicates them, and be discontinued when that indication is fulfilled. They should never be prescribed where there is a tendency to inflammation of the digestive and other organs. Some tonics have a specific power in ague and other periodical diseases, as Peruvian bark, &c. The leading tonics are American centaury, balmony, barberry-bark, bayberry-bark, bethroot, black alder, black cherry, black poplar, blessed thistle, boneset, boxwood-flowers, buckbean, bugle, camomile, colic-root, colombo, comfrey, elecampane, gentian, ginseng, golden seal, goldthread, iron and its preparations, orange-peel, oxgall, peach-kernels, prince's pine, spikenard, vine-maple, Virginia snakeroot, water-cup root, whitewood-bark, wild-cherry bark and kernels, willow-bark, &c.

VERMIFUGES.—See *Anthelmintics.*

VOMITS.—See *Emetics.*

SECTION IV.

BOTANICAL VOCABULARY.

Abortive. Defective; not arriving to perfection.

Abrupt. Appearing as if cut off. A pinnate leaf is abrupt when it does not terminate with an odd leaflet.

Accessory. Additional; annexed, and of a different kind, when applied to the border, &c., of the receptacle of a lichen.

Acinaciform leaf. Sabre-form; cutlass-form; one edge sharp and convex, the other thicker and straight or concave.

Acine. One of the little globules constituting a compound berry, as in the blackberry, &c.

Acuminate. When any part terminates suddenly in a point which is inclined to one side.

Acute. Terminating in a sharp point.

Adnate. Adhering or growing together.

Aggregated. Crowded together in one receptacle without united anthers, as in compound flowers.

Aigrette. See *Egret.*

Alternate. On opposite sides of the stem, and at different distances from its base; this relation repeated at nearly regular intervals.

Ament. A simple peduncle bearing numerous chaffy scales, which serve as calyces. The chestnut is an example.

Angiospermia. The seeds enclosed in a capsule. The name of the second order of the thirteenth class.

Angular. Having angles.

Annual. Springing up, perfecting fruit, and dying, the same year.

Anther. The top part or knob of the stamen, which contains the pollen.

Apetalous. A flower without a corol.

Apex. The point end opposite the place of insertion.

Apophysis. A process from the base of the capsule of a moss.

Approximate. Growing near each other.

Aquate. Growing in or near water.

Arachnoideus. Resembling the spider's web.

Arboreus. Tree-like.

Aril, arillus. The outer coat of a seed, which, not contracting with it in ripening, falls off.

Arrow-form. Shaped like an arrow-head.

Ascending. Rising gradually between a horizontal and perpendicular direction.

Auctus calyx. Having an outer row of leaflets, as the dandelion.

Awl-form. Linear at the base, and becoming more or less curved at the point.

Awl-pointed. Acuminate.

Awn. A short, slender process proceeding from the top or back of glumes.

Awnless. Devoid of awns.

Axil. The hollow or angle formed by the meeting of the petiole with the stem, or a branch with the main stem.

Axillary. Growing from the axils.

Banner. The upper petal in a papilionaceous flower.

Barren. Producing no ripe seed.

Base. The part nearest the point of attachment.

Beaked. Terminated by a process resembling a bird's bill.

Beard. Parallel hairs.

Bell-form. Swelling out at the base in the form of a bell.

Biennial. Springing up from the seed, one year comes to perfection, bears seed, and dies the next.

Bifid. Divided into two parts.

Bifurcate. Forked twice.

Bipinnate. Twice pinnate.

Bipinnatifid. Doubly pinnatifid.

Biternate. Thrice ternate.

Bract. A floral leaf; a thin, leaf-like appendage to some flowers, lying under or interspersed in the flowers: it is generally different in color and shape from the true leaves of the plant.

Branchlet. A twig.

Bulb. Fleshy and roundish, as the onion.

Caducus. Any part of a plant which falls off earlier than is usual for similar parts in most of plants.

Calyx. The external covering of the flower surrounding the corol; it is mostly green.

Camb. The gelatinous substance which in the spring abounds between the bark and wood of trees.

Campanulate. Bell-form.

Capillary. Hair-form; longer than bristle-form, in proportion to its thickness.

Capitate. Growing in heads.

Capsule. That kind of pericarp which opens by valves, and when ripe becomes dry; not including siliques nor legumes.

Carinate. See *Keeled.*

Cartilaginous. Hard and somewhat flexible; applied to a leaf when it is bound around with a strong margin, different from the disk.

Caryophylleous. Having five single petals, each terminating in a long claw, enclosed in a tabular calyx, as the pink.

Catkin. See *Ament.*

Caulescent. Having a stalk or stem besides the peduncle or scape.

Cauline. Belonging to the stem.

Cell. The cavity of a pericarp or anther.

Chaffy. Having or bearing chaff.

Ciliate. Edged with parallel hairs resembling eye-lashes.

Class. The highest division in natural history. Classes are divided into *orders*, orders into *genera*, genera into *species.*

Clasping. A sessile leaf with the two lobes partly surrounding the stem.

Clavate. Club-form; growing larger toward the end.

Claw. The lower and narrow parts of a petal, by which it is attached to the receptacle or calyx. This can exist only in polypetalous corols.

Climbing. Ascending by means of tendrils or rootlets; it differs from twining.

Cochleate. Coiled spirally, like a snail-shell.

Coiled. Twisted, like a rope.

Colored. Any color except green: in botany, green is no color.

Columella. The central column in a capsule to which the seeds are attached.

Common. That part which serves to include or sustain several parts similar among themselves.

Commissure. The joining sides of pairs, as of fennel-seeds.

Complete. Having both calyx and corol.

Compound Flowers. When several florets are comprised within one receptacle, each having united anthers.

Compound Leaves. When several leaflets grow on one petiole.

Compressed. Flattened.

Conglomerate. Consisting of a number of small heads.

Conical. In the shape of a cone.

Connate. Opposite leaves with their bases growing together, so as to appear but one leaf; as the eupatorium perfoliatum.

Connivant. Bending toward each other; converging.

Corcle. The rudiment of the future plant, always proceeding from the cotyledon.

Cordate. Heart-shaped, with the lobes at the base.

Coriaceous. Leathery.

Corol. The inner delicate covering of the flower, which generally constitutes its principal ornament.

Corymb. The general appearance is like an umbiliferous flower, from which it differs by having its peduncles springing up at different distances down the main stem; as the yarrow.

Cotyledon. The thick lobes of seeds, as in the bean, which are two, the Indian corn one, &c.

Cowled. When the edges meet below and expand above, and generally separate; as the spathe of the arum, &c.

Creeping. Running along in a horizontal direction, sending off rootlets.

Crenate. Scolloped on the margin: the notches point neither to the apex nor base.

Crenulate. Finely crenate.

Crested. Having an appendage similar to a cock's comb in shape.

Crowned. Having hairs, feathers, or some other appendage, on the top of the seeds; as the dandelion (leontodon).

Cruciform. Having four petals disposed in the form of a cross.

Cryptogamia. The name of the twenty-first class: this includes those plants whose stamens are not manifest even by the aid of the microscope.

Cuculate. When the edges meet in the lower part, and expand above, so as to form a hood or sheath.

Culm. The stalk or stem of grasses, as wheat-straw, sugar-cane, &c.

Culmiferous. Having culms.

Cuneate. Wedge-form.

Cup-form. Hollow within, like a cup.

Cuspidate. Having a sharpened point tipped with a bristle, a prickle, or a lengthened apex not curved.

Cuticle. The thin, outside coat of the bark, as is seen in the birch, cherry, &c.

Cyathiform. Wineglass-form.

Cylindrical. Shaped similar to a cylinder.

Cyme. The general appearance is like an umbiliferous flower, with which it agrees by having the stalks springing from a common centre, but disagrees in having those stalks irregularly subdivided: the elder is an example.

Decandria. Ten males; ten-stamened; the name of the tenth class, which includes all perfect flowers with ten distinct stamens. It is also the name of the tenth order, in those classes in which the characters of the first twelve classes are taken for orders.

Deciduous. Falling off in the usual season; for similar parts to fall off; not perennial.

Declined. Curved downward.

Decompound. Doubly compound.

Decumbent. When the base is erect, and the remainder lies on the ground.

Decurrent. When two edges of a leaf proceed down the stem below the points of insertion, and become projecting wings, it is termed decurrent.

Decussate. When leaves or branches are opposite in pairs, and each pair stands at right angles with the next pair above or below on the same stem.

Deflected. Bending down archwise.

Dehiescent. The natural opening of capsules in proper season.

Deltoid. A leaf diamond-form.

Dentate. Having projections of its own substance, which are neither serratures nor crenatures.

Denticulate. Having very small teeth.

Diadelphia. Two brotherhoods; the name of the sixteenth class, which includes those flowers that have their stamens united by their filaments into one or two sets, and have papilionaceous corols.

Diandria. Two males; two-stamened; the name of the second class, which comprises all these plants whose flowers are perfect; having two stamens not growing in the pistil. It is also the name of the second order in those classes in which the characters of the first twelve classes are taken for orders.

Dichotomous. Forked in pairs.

Didynamia. Two overpowering others; the name of the thirteenth class: it includes all those plants which have perfect flowers, with four stamens—two longer than the other two—and the corols labiate.

Didynamous. Approaching to the class Didynamia.

Diffused. Spreading.

Digittate. Fingered, like the leaves of strawberry, five-finger, &c.

Digynia. Two females; having two pistils; the name of the second order of such of the first twelve classes known by the flower having two pistils.

Dilated. Expanded, widened.

Diœcia. Occupying two houses; the name of the twentieth class: the plants belonging to this class have imperfect flowers; the male and female flowers grow on different plants of the same species.

Diœcious. Belonging to the above class, or varying into it.

Discoid. Having a disk without rays.

Disk. The whole surface of a leaf, or the top of a compound flower, in opposition to margin or periphery.

Diverging. Branches proceeding from the stem, so as to form nearly right angles with it.

Divaricate. Branches spreading out from a stem so far as to form more than a right angle with it above.

Dorsal. Fixed to the back.

Down or *Downy.* Covered with fine, cotton-like down.

Doubly-pinnate. The general petiole with a second range, bearing pinnate leaflets arranged on each side of them.

Doubly-ternate. When the petiole is ternate, and each one has three leaves.

Doubly-toothed. Having the teeth dentate.

Drupaceous. Bearing drupes.

Drupe. That kind of a pericarp which is a thick, fleshy, or cartilaginous coat, covering a nut or stone.

Echinate. Hedgehog-like; beset with prickles.

Egret. The down remaining on the top of the seed.

Elliptic. In the form of an ellipse.

Emarginate. Notched at the termination of the midrib.

Enneandria. Nine males; nine-stamened; the name of the ninth class: it includes all those plants whose flowers are perfect with nine stamens in each. The number of stamens are very variable in many of the plants belonging to this class.

Ensiform. In the shape of a sword.

Entire. Continued without interruption; undivided.

Erect. Upright; not drooping.

Erose. Gnawed; unequally sinuated, as if eaten by insects.

Exotic. Plants not growing spontaneously or wild; not natives.

Exsert. Standing or protruding out.

Fascicle. It differs very little from the corymb, except the flower-stalks are much shorter: the sweetwilliam is an example.

Fastigiate. Level-topped, or a little convex.

Faux. Jaws; the throat, or the opening into a corol.

Female. See *Pistillate.*

Ferruginous. The color of iron-rust.

Fertile-flower. Pistillate; bearing seed.

Fibre. Any thread-form part.

Fibrous. The whole root consisting of filiform parts, originating immediately from the base of the stem, as in many grasses.

Filament. That part of the stamen which extends from its insertion to the anther, supporting the latter; when this part is wanting, the anthers are sessile.

Filices. The first order of the twenty-first class; it includes all ferns. The plants belonging to this order bear theii fruit on their leaves.

Filiform. Thread-like.

Fleshy. Thick and pulpy.

Flexuous. Bending.

Floral. Relating or belonging to a flower.

Floret. A little flower; one of the number which constitutes a compound flower, whether it be large or small.

Foliaceous. Having abundance of leaves.

Follicle. A pericarp with one valve which opens longitudinally, as the asclepias.

Funnel-form. In the form of a funnel.

Furrowed. Marked with deep lines.

Fusiform. Spindle-form, as the roots of carrots and parsnips.

Genera. See *Genus.*

Generic. Relating to *Genus.*

Geniculate. Kneed; forming a very ootuse angle.

Genus. Includes a number of plants which agree with each other in the structure of the flowers and fruit. Genera are divided into species.

Germ. The part of the pistil which, after the reception of the pollen, soon enlarges, and contains the rudiment of a young plant or more; the whole substance finally becomes the pericarp and seed.

Gibbous. Swelled out; when one or both sides are swelled out.

Glabrous. Sleek; having no pubescence.

Gland. A roundish appendage, which serves for secretion and transpiration.

Glaucous. Covered with a greenish mealing, which is easily rubbed off.

Globose. Spherical.

Glume. Chaffy scales which surround and enclose the stamens and pistils of the flowers and grasses.

Granulate. Having several little knobs in the form of grains, strung together along the sides of a filiform radicle, as the wood-sorrel.

Grooved. See *Furrowed.*

Gymnospermia. The name of the first order of the thirteenth class; it includes those plants which have naked seeds.

Gynandria. Stamen and pistil united; the name of the eighteenth class: it comprises all those plants which have their stamens inserted on the pistil, separate from the base of the corol.

Halbert-shaped. A leaf having acute processes proceeding from each margin at the base, as the sorrel-leaf.

Hastate. Halbert-form.

Head. Flowers heaped together in a roundish form, having either very short or no peduncles, as the clover.

Hemispherical. Semi-globular.

Herbaceous. Not woody; perishing annually.

Herbarium. A collection of dried plants.

Hexagonal. Six-cornered.

Hexandria. Six males; six-stamened; the name of the sixth class: it includes all those plants which have perfect flowers with six stamens, neither situated on the pistil, united by their filaments into one or two sets, nor have four stamens always longer than the other two. It is also the name of the sixth order of those classes which take the character of the first twelve classes for orders.

Hirsute. Covered with stiff hairs.

Hispid. Bristly; beset with stiff hairs.

Hoary. Having a whitish color, arising from being covered with mealy scales.

Horizontal. Parallel to the horizon, as the bloodroot (sanguinaria).

Horn. An elongated process from the base, or near it, of the calyx, corol, or nectary: the larkspur is an example.

Icosandria. The name of the eleventh class, which includes all plants bearing perfect flowers, with the number of stamens exceeding ten, and inserted on the calyx, as the apple, pear, rose, &c.

Imbricate. Leaves, scales, &c., lying over each other, as the shingles of a house.

Incurved. Bent inward.

Inferior. When a calyx or a corol comes out below the germ, it is inferior.

Inflated. Appearing as if blown up with air.

Inflexed. Bent inward; same as *Incurved.*

Inflorescence. The manner in which flowers are situated on plants.

Interrupted. When a spike has leaves or small flowers interposed at different intervals.

Involucrum. See *Involucre.*

Involucre. A kind of leafy calyx, coming out some distance below the flower, and never enclosing it like a spathe.

Involute. Rolled inward.

Irregular. Differing in figure, size, or proportion of parts among themselves.

Jagged. Irregularly divided, cut, or torn.

Keel. A ridge resembling the keel of a boat.

Keeled. Having keels; ridged.

Kidney-form. Hollowed out at the base, with roundish lobes at the ends, as in mallows.

Kneed. See *Geniculate*

Labiate. Having lips.

Lacerated. Torn; cut, or apparently torn into irregular segments.

Lacunose. Pitted.

Lamina. The upper broad part of a petal of a polypetalous corol.

Lanceolate. Lance-form; when the length greatly exceeds the breadth, with a gentle taper from the base to the apex.

Lance-ovate. Partaking of the lanceolate form, and of that with which it is confounded.

Lateral. On one side.

Leaflet. One of the constituent leaves of a compound leaf.

Lezume. A pod, without a partition running lengthwise, and having the seeds attached to one edge only.

Ligulate. That kind of flower which consists of a strap-like petal, which is tubular at the base only.

Liliaceous. A corol with six petals, spreading gradually from the base, so as to exhibit a bell-form appearance, as in the tulip, lily, &c.

Linear. Maintaining the same breadth throughout the entire length.

Lipped. Having lips.

Lobe. A division which is parted off by a rounded or curved incision.

Longitudinally. Lengthwise.

Lurid. Of a palish, dull color, as in tobacco, henbane, thorn-apple, &c.

Lyrate. Pinnatifid, with the largest division at the apex, diminishing thence to the base, as hedge-mustard.

Lyrate-pinnate. Pinnate, with the odd terminal leaflet the largest.

Male. Staminate.

Many. Whenever there are more than are usually numbered.

Margin. The circumference or border.

Marginated. Having a margin different in some measure from the disk.

Mature. Full grown.

Midrib. The middle rib of a leaf, running from the petiole to the apex.

Monadelphia. One brotherhood; the name of the fifteenth class: it comprises all plants having perfect flowers, with their stamens united by their filaments into one set, and their flowers not papilionaceous.

Monandria. One male; having one stamen; the name of the first class: it includes all those plants which have perfect flowers, with one stamen each, not situated on the pistil. It is also the name of the first order in those classes which take the character of the first twelve classes for orders.

Monœcia. Occupying one house; the name of the nineteenth class: it includes those plants which have imperfect flowers, but the stamens and pistils grow on the same plant in different flowers.

Monogynia. One female; one-styled; the name of the first order in the first thirteen classes: it includes all plants belonging to those classes whose flowers have one style.

Monopetalous. Having only one petal.

Monophyllous. Consisting of one leaf.

Monstrous. Plants producing any part different from the same part when growing wild; very common in cultivated flowers.

Mucronate. Having a rounded end, terminated by a prickle, which resembles the continuation of the midrib.

Muricate. Covered, or armed with prickles.

Natant. Floating.

Nectary. That part of the flower which secretes honey.

Nerves. Rib-like fibres, running from the base of the leaf toward the apex.

Nectariferous. Bearing nectaries; producing honey.

Nodding. Whatever is applied to droops, or hangs down.

Nutant. See *Nodding.*

Obcordate. Cordate, with the point attached to the petiole, as in the common sorrel.

Oblanceolate. Lanceolate, with the base narrowest.

Oblique. A position between the perpendicular and the plane of the base; applied to leaves, petals, calyxes, &c., which are, as it were, cut obliquely, or whose bases are shorter on one side than the other.

Oblong. Having the length about double the breadth, and the side nearly parallel.

Obovate. Ovate, with the base smallest.

Obsolete. When teeth, serratures, &c., are nearly obscure, and appear as if worn out.

Obtuse. Having the apex rounded; blunt.

Octandria. Eight males; eight-stamened; the name of the eighth class: it includes all those plants which have perfect flowers, with eight stamens to each, not growing on the pistil, nor united into one or two sets by their filaments. It is also the name of the eighth order in those classes in which the characters of the first twelve classes are taken for orders.

Opposite. Standing at the same height, with base against base.

Orbicular. Nearly circular.

Order. The division of a class.

Oval. The length exceeding the breadth, having the heads equal and rounded similar, and the sides curved with the whole length.

Ovate. Egg-shaped, with the base largest.

Palmate. Deeply divided and spreading, so as to resemble a hand with the fingers spread.

Panicled. In panicles.

Panicle. When the peduncles along the main peduncle of a raceme are divided, and the flowers hang loose, it is named a panicle: oats are an example.

Papilionaceous. Butterfly-form; resembling a butterfly in shape, as the pea-flower.

Papillæ. A fleshy process or point.

Parasite. A plant growing out of another, as the misletoe.

Parted. Deeply divided, almost to the base.

Partition. The membrane, &c., which divides pericarps into cells.

Pedate. With narrow divisions, which run down almost to the stem, and resemble the hand, with spread fingers, or a bird's foot: from the latter it derives its name.

Pedicel. A foot-stalk; a partial peduncle.

Pedicelled. Having a pedicel.

Peduncle. A flower-stalk which does not spring up naked from the root.

Peduncled. Having a peduncle.

Pedunculous. Partaking of the character of a peduncle.

Peltate. Having the petiole or style attached to the under side of the leaf or stigma, instead of the margin.

Pendulous. When the whole of the part droops.

Pentagynia. Five males; five-styled; the name of the fifth order of the first twelve classes: it includes all plants belonging to these orders which have five pistils.

Perennial. Continuing more than two years.

Perfoliate. Having the stem passing through the leaf.

Perforate. Having holes as if pricked through, or lucid dots.

Perianth. That calyx which adjoins and surrounds the other parts of the flower, as of the apple, rose, &c.

Pericarp. The covering of the seed.

Pericheth. Involucre-like leaves surrounding the base of the peduncle of a moss.

Personate. Labiate corols with the throat muffled, as snap-dragon, are personate.

Petal. The colored leaf or leaves of the corol.

Petal-form. Resembling a petal in shape.

Petandria. Five males; five-stamened; the name of the fifth class, which comprises all perfect flowers that have five stamens not growing on the pistil.

Petiole. The foot-stalk of a leaf.

Petioled. Having petioles.

Petiolate. Having a petiole.

Pinnate. Having distinct leaflets arranged along the opposite sides of a simple petiole.

Pinnatifid. This differs from pinnate, by segments of leaves, instead of leaflets, arranged along the midrib.

Pistil. The female genital organ of plants; it is situated in the centre of a perfect flower. It consists of the germ, style, and stigma: but the style is frequently wanting; then the stigma is sessile.

Pistillate. Having pistils, without stamens.

Plaited. Folded somewhat similar to a fan when nearly full spread.

Plicate. Plaited.

Plumose. Feather-like.

Pollen. A yellow, mealy substance, contained within the cells of the anthers.

Polyandria. Many males; many-stamened; the name of the twelfth class, comprising all those plants whose flowers are perfect, having more than ten stamens placed in the receptacle. Also the name of the twelfth order in those classes in which the characters of the first twelve classes are taken for orders; and those plants which are very variable in regard to the number of their stamens.

Polygamia Æqualis. The first order of the seventeenth class; the florets of the disk and of the ray are all perfect.

Polygamia Superflua. The second order of the seventeenth class: the florets of the disk are perfect; those of the ray, pistillate.

Polygamous. Inclining to the class Polygamia. This class, however, is abolished.

Polygynia. The name of the thirteenth order: it includes those plants belonging to the first twelve classes whose styles or sessile stigmas exceed ten.

Polypetalous. Having more than one petal.

Pome. A pulpy pericarp, without valves, containing the capsule; as the apple, pear, and quince.

Process. A projecting part.

Procumbent. Lying on the ground.

Proliferous. Putting forth branches or flowers from the centre of the top of a preceding one.

Pubescent. Hairy; having hair or down.

Punctate. Dotted.

Quadrangular. Having four corners or angles.

Quinate. Having five leaflets on one petiole.

Raceme. That manner of flowering wherein the florets are arranged on pedicels along the side of a general peduncle, as in currants.

Radiating. Spreading out from around the margin.

Radical. Proceeding directly from the root.

Ray. The outer margin of a compound flower.

Receptacle. The end of the peduncle, in which is inserted the other parts of the flower.

Recurved. Curved downward.

Reflexed. Bent back, so as nearly or quite to touch the stem or peduncle.

Reniform. Kidney-shaped.

Repand. When bordered by teeth separated by small segments of circles; waved.

Repent. Creeping.

Resupinate. Upside down.

Reticulate. Having veins crossing like network.

Retuse. Emarginate; with a shallow sinus.

Reversed. Bent back toward the base.

Revolute. Rolled back; applied to a leaf when the opposite margins are rolled back till the rolls meet at the midrib.

Rib. A nerve-like support to a leaf.

Ringent. Having the throat open, like mint, motherwort, and catnep.

Rosaceous. A corol formed like the rose, apple, &c.

Rotate. Wheel-form.

Rough. Covered with dots; harsh to the touch.

Rugose. Wrinkled.

Runcinate. Pinnatifid, with the divisions pointing backward.

Saggitate. Shaped like an arrow-head; differing from *Cordate*, by having its lobes acute.

Salver-form. A monopetalous corol, having a flat spreading limb proceeding from the top of the tube.

Scabrous. Covered with elevations, which are not perceptible to the eye, but are harsh to the touch.

Scaly. Covered more or less with scales, as in fern-roots.

Scape. A peduncle, springing immediately from the root, and devoid of leaves.

Segment. The parts into which a leaf, corol, petal, &c., is divided or cut.

Serrate. Having the margin notched, appearing as if cut, and pointing toward the apex.

Serrulate. When a serrate leaf has its teeth serrate again; it is also applied to leaves with extremely small serratures.

Sessile. When a leaf or a flower, &c., is destitute of a petiole or peduncle, &c., it is sessile.

Setaceous. Resembling a bristle in proportion and size.

Silicle. A silique, whose length and breadth are nearly equal.

Siliculosa. The name of the first order of the fourteenth class: it includes those plants which have a silicle whose length is never double its breadth.

Silique. That kind of a pod which has a longitudinal partition, to which the seeds are attached alternately at each edge.

Simple. Undivided.

Sinuate. Having the margin hollowed out by rounded incisions, as the oak-leaf.

Solitary. Standing alone.

Spadix. An elongated receptacle, proceeding generally from a spathe or sheath. In the *Arum triphyllum*, it emerges from the spathe; but in the *Acorus calamus*, the spadix is destitute of a sheath.

Spathe. The kind of calyx which first encloses the flower, but after it expands it is left at a distance below it.

Species. The lowest division in the vegetable kingdom.

Spike. Having florets arranged along the sides of a general peduncle or receptacle, with either very short or no peduncles.

Spiked. In spikes.

Spine. A thorn.

Stamen. The male genital organ of plants: in perfect flowers it is situated next to the pistil. It generally consists of a filament and an anther; the latter contains the pollen.

Staminate. Having stamens without pistils.

Staminiferous. See *Staminate*.

Stigma. The top of the pistil.

Stipular. Having connexion with, or formed of stipule.

Stipule. A leaflet or scale, near or at the point of insertion of the petiole.

Striate. Marked or grooved with small lines.

Strobile. An ament, with woody scales, as the fruit of the pine.

Style. The part of the pistil between the germ and the stigma.

Sub-cordate. Somewhat heart-shaped.

Sub-dentate. Somewhat toothed.

Sub-globular. Somewhat roundish.

Sub-radical. Somewhat radical.

Sub-serrulate. Somewhat serrulate.

Sub-sessile. Nearly sessile.

Subulate. Linear at the base, and becoming sharp and more or less curved to one side at the point.

Succulent. Juicy; also applied to pulpy leaves.

Superior. When a calyx or a corol comes out from the upper part of the germ, it is superior.

Syngenesia. Anthers growing up together in a united tubular set. The name of the seventeenth class, which comprises all those plants whose flowers are compound, having the anthers (which are five in number in each floret) adnate, so as to form a tube.

Terminal. Proceeding from or occupying the extremity of a branch or twig, &c.

Ternate. In threes.

Tetradynamia. Four stamens in superiority over the other two; the name of the fourteenth class, which comprises all plants whose flowers uniformly have six stamens, with four longer than the other two, and cruciform corols.

Tetrandria. Four males; four-stamened; the name of the fourth class, which comprises all perfect flowers that have four stamens distinct, and not two long and two short ones.

Throats. The internal part of a ringent corol, where the tubular part begins to open into lips.

Tomentose. Covered with down matted together.

Toothed. See *Dentate.*

Tooth-cerrate. Partaking of the nature of a cerrate and dentate leaf.

Triandria. Three males; three-stamened; the name of the third class: it includes all those plants which have perfect flowers, with three stamens each, not growing on the pistil.

Triangular. In the form of a triangle; three-cornered.

Trichotomous. Three-forked.

Tricuspidate. Three-pointed, each point ending in a bristle or prickle, or a straight, simple point.

Trifed. Divided into three parts.

Trigynia. Three-styled; the name of the third order in the first twelve classes: it includes all the plants belonging to those orders which have three pistils.

Truncate. The end appearing as if cut off.

Tuberous. Roots which are thick and fleshy, but not of a regular globular form: as the potato, peony, &c.

Tubulous. The corol of a compound flower which forms a tube; not a ligulate floret.

Twining. Ascending by winding around, as in the hop.

Umbel. That manner of flowering in which the flowering stems diverge from one common centre, like the braces of an umbrella: if these stems be again subdivided, a partial umbel is formed.

Umbelliferous. Bearing umbels.

Unarmed. Having neither thorns nor prickles.

Undulate. Waved.

Veined. Having ribs or tendinous fibres, variously branched.

Ventricose. Inflated; bellied out.

Vexillum. The upper petal of a papilionaceous flower.

Villose. Covered with soft whitish hairs.

Wheel-shaped. Wheel-form; a monopetalous coral, with a spreading border, and having an extremely short tube.

Whorl. Leaves or flowers disposed in a circular manner around a stem.

Whorled. Surrounding the stem at intervals.

SECTION V.

MEDICAL BOTANY.

"The science of Botany embraces within the sphere of its investigation more than one hundred thousand species of living organized beings. Although these different species possess many analogies in common, sufficiently so to characterize them as belonging to the same general division of natural objects, yet such is the variety in their appearances, properties, habits, structure, mode and degree of development, that each species possesses certain peculiarities by which it may be distinguished from all others. To classify and arrange these according to their distinctive characteristics, and to investigate their properties, habits, structure, functions, and the laws that govern the development of their different parts and organs, fall within the province of botany. The vegetable kingdom therefore presents an extensive field of inquiry, some of which requires research of the profoundest kind, and hence often calls into exercise the highest powers of the human intellect.

"The study of botany is a delightful, nay, an enticing pursuit. The exercise required in collecting specimens, invigorates the physical system; the examination of the different individuals calls into exercise and improves the intellectual faculties; while the wisdom displayed in the varied forms and tints, and in the adaptation of the different parts to the performance of their respective functions, leads to profound reflections of an unsullied moral nature. Thus is the pursuit of botany useful in invigorating the body, in strengthening and expanding the mind, and in improving the morals. Botany can also be, and is, extensively applied to useful practical purposes. From the vegetable kingdom man derives a large share of his sustenance, and from the same source he derives agents for the alleviation of his maladies. Hence, whatever leads to the discovery of the uses and properties of the different individuals of the vegetable kingdom, must be of more or less importance to every individual of the human family.

"From principles derived from botanical investigations the horticulturist is enabled to make improvements in the variety and qualities of fruits and culinary vegetables. By a knowledge of this science, the physician is enabled to take advantage of new discoveries, and make improvements in materia medica; and by an acquaintance with the affinities of plants, he is prepared to investigate with advantage the properties and uses of the native productions of any and every section of the globe; so that wherever he may be located, by fortune, accident, or otherwise, he is not at a loss how to proceed, upon sure and scientific principles, to ascertain the properties and uses of the remedial agents of that section, although there may not be a single species with which he was before acquainted. Formerly botany was identified with the medical profession; but when the disciples of Paracelsus gained the ascendency in the schools, botany became in a great measure neglected by those who ought to have been foremost in advancing the science. There have always been, however, members of the medical profession who have cultivated botany with a zeal worthy of so noble a cause. But the great mass of practitioners at the present day are as ignorant of the science as the brutes they ride. Furthermore, but few medical schools teach the science at all. Such a state of things ought not to be. No medical man ought to consider his education complete without a thorough knowledge of the science of botany. Within the last few years some medical schools have adopted botany as a part of their course of instruction. This evinces something of a redeeming spirit, and we hope that it will not be long before all schools will take the same course; and that no individual will be allowed to graduate, and go forth as a well-educated physician, without a thorough knowledge of this important and useful science."

The above remarks, which we have extracted from the "Western Medical Reformer" of June, 1837, we heartily endorse, and recommend to the serious attention of the student, the importance of which he will not be slow in appreciating; for the eclectic practice is one destined to a continued course of improvement—going on from perfection to perfection—as long as new agents are found, or new developments of the powers of those agents are discovered, by the careful practitioner and the intelligent chemist. This march of improvement results more and more in the discarding of dangerous minerals and deleterious substances from among those articles resorted to for the cure of diseases; and we are confidently looking forward to the period when the liberal influence of eclectic principles, and the developments of an unbigoted, enlightened practice, shall make it manifest that vegetable remedies and those alone are necessary, proper, and sufficient, to control and obviate the disorders incident to the human frame.

Botany, then, it will be perceived, is the strong right arm of our system, the importance of which is well understood among those who have experience in medical reform; and in treating of the subject in this volume we shall group among our Vegetable Materia Medica the best and most approved of the articles kept in the shops—meaning by this term, not exclusively apothecaries' establishments, but also those noble institutions, now so common in all our large cities and towns, BOTANIC STORES and HERBALISTS' DISPENSARIES—institutions to which medical reform gave birth, and which are destined to live and flourish in usefulness as long as light and knowledge shall increase upon the earth.

In the botanical arrangement of the following plants, I have followed the improved LINNÆAN SYSTEM; relying, in most cases, on EATON, for the generic and specific descriptions. This method was deemed most advisable in a text-book for the student, to facilitate his progress in the elementary department of this most important branch of his studies.

Class I. Monandria.—Bearing flowers with but one stamen.

Order I. Monogynia.—Bearing flowers with but one style, or sessile stigma.

GENUS ALPINIA.—Capsule 3-celled and 3-valved, with a central receptacle; anther of two distinct lobes; filament with two triangular lobes at the base, emarginate and simple at the summit; outer limb of the corolla in three oblong lobes, inner a simple lip; seeds rough, tunicated.

NO. 1.—MALABAR CARDAMOM.

Common Names.—Lesser Cardamom, &c.

A. CARDAMOMUM.—Leaves elliptic, lanceolate, acute; calyx notched; capsule ovate-oblong, obtusely triangular.

Synonyms.—*Cardamom minus, A. Cardamom.*

Description.—The cardamom is a native of Malabar, Ceylon, and the East Indies. The seeds are acrid, warm, aromatic, and fragrant. They yield their properties to water and to alcohol, but more readily to the latter.

Properties.—An agreeable aromatic stimulant, warming, nervine, expelling, emmenagogue, and aphrodisiac.

Employment.—The seeds in powder, of from 5 to 10 grain doses, operate as a pleasant, warm, cordial stomachic. The tincture is frequently employed as an adjuvant to medicines of the cold aperient class, or to correct the griping properties of some purgatives. Dose from 1 to 3 drams.

Incompatibles.—Acids, sulphate of iron, and corrosive sublimate.

NO. 2.—GRAINS OF PARADISE.

Common Names.—Guinea Grains, &c.

A. GRANA-PARADISI.—Scape branching, very short.

Description.—These are the seeds of a plant which grows in Madagascar, Guinea, Ceylon, &c., in shady marshes at the foot of mountains.

Properties.—Stimulant and heating; a substitute for and nearly equal to capsicum as a pure stimulant.

Employment.—They are used in powder, decoction, and tincture; and are said to be useful in paralysis. They are often administered in veterinary practice, and are much relied on in Europe in the treatment of diseases of animals as a permanent stimulant, entering into almost all the compounds where warm and cordial remedies are indicated. It is also made use of by manufacturers to give artificial strength to spirits, wine, beer, and vinegar.

GENUS AMOMUM.—Calyx 3-cleft, unequal, cylindrical; corol 3-parted, unequal, expanding; nectary 3-lipped, nearly erect.

NO. 3.—GINGER.

Common Names.—Common Ginger, &c.

A. ZINGIBER.—Scape naked; spikes ovate; scales ovate; leaves lanceolate, alternate, with a ciliate margin at the tip; corol yellowish-green, with a slender tube.

Synonym.—*Zinziber officinale.*

Description.—Ginger is a perennial plant, a native of the East Indies, but is now cultivated in the West Indies. It flowers in September, and is of two kinds, the black and white. The black is thick and knotty, internally of an orange color; while the white is less thick and knotty, internally of a reddish-yellow color, and externally of a whitish-gray or yellow. The root, which is the part used in medicine, is of an acrid and warm taste, and a very strong smell; water, alcohol, and ether, dissolve a part of its active principles.

Properties.—Ginger is a warm, stimulating aromatic, carminative and expectorant, useful in cold, flatulent colics, in laxity and debility of the intestines, and in some forms of dyspepsia proceeding from atonic gout. It promotes circulation, and relieves pain, particularly in the stomach; is good in diarrhœa, hysterics, stomach cough, dyspepsia, and flatulence; and externally it is often used as a rubefacient with advantage.

Employment.—The dose of the powder is from 3 to 20 grains taken in milk or mucilage. In flatulence, languid circulation, and a check of perspiration, a strong tea may be taken freely. The sirup is a fine vehicle for other medicines in the above complaints; and when in England, I found that a wine was made there from the fresh root, with sugar and hot water, fermented, which is very pleasant and valuable for its medical properties, and a good menstruum for our *Restorative Wine Bitters.* A concentrated decoction of the green root, boiled a few minutes with loaf-sugar, makes a valuable sirup, suitable for a menstruum and for other purposes. It also enters into an excellent beverage for common drink known as *ginger-pop.*

Ginger acts as a special stimulant to the urino-genital mucous membrane, and should be avoided where there is a tendency to stricture of the urethra. The *essence of ginger,* commonly kept in the shops, is nothing more than a very strong tincture of the root. The sirup may be prepared extemporaneously by adding 2 fluid ounces of this to 10 ounces of simple sirup.

Adulterations.—This is one of those articles which are shamefully adulterated by the grinder. It is seldom found as a powder in the shops in a pure state, being mixed with Indian meal and various foreign substances.

GENUS CURCUMA.—Anther double, embracing the style; 2-spurred; filament petal-like, central lobe bearing the anther; capsule 3-celled; seeds numerous.

NO. 4.—ZEDOARY.

C. ZEDOARIA.—Leaves broad, lanceolate, smooth, with a purple cloud down the middle; spikes lateral; bracteas emarginate.

Description.—A perennial, growing in various parts of India, particularly in Ceylon and Malabar. The root is brought us in oblong pieces about the size of the little finger, and in roundish ones about an inch in diameter, of an ash color, and white within. It has an agreeable camphorous smell, and a bitter aromatic taste. It yields its virtues to alcohol and water. The best comes from Ceylon. Being a perfectly innocent agent in its operation, is the only reason I can give for its becoming latterly so neglected by the *allopathists;* but the judicious physician will find it useful in his practice.

Properties.—A warm, stimulating aromatic, stomachic and deobstruent. It has many of the properties of the common ginger.

Employment.—Useful in flatulent colic, debilitated digestive organs, and hysteric affections when attended with flatulency. Dose in substance from 10 grains to half a dram.

Class II. Diandria.—Bearing flowers with but two stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS COLLINSONIA.—Calyx tubular, 2-lipped, upper lip 3-toothed; corol funnel-form, unequal, under lip many-cleft capillary; one perfect seed.

NO. 5.—STONE-ROOT.

Common Names.—Horse-Balm, Rich-weed, Knob-root, &c.

C. CANADENSIS.—Leaves heart-ovate, broad, glabrous; teeth of the calyx subulate; panicle terminal, compound.

Description.—This is probably a plant indigenous to this country, and is found from Canada to Virginia. It grows from one to three feet in height. Odor strong but not unpleasant.

Properties.—Diuretic, stomachic, tonic.

Employment.—The root is used in decoction, and is thought to be useful in colic from the lochia. The old-school physicians prescribe it sometimes for the gravel; but its principal employment is in the veterinary practice, as a useful and efficient diuretic.

GENUS LEPTANDRIA.—Calyx 5-parted, acuminate; corol tubular, 4-cleft, with one division smaller; capsule ovate, 2-celled, opening at the top.

NO. 6.—CULVER'S ROOT.

Common Names.—Black-root, Culver's-physic, Bowman's-root, Brinton's-root, Tall Veronica, &c.

L. VIRGINICA.—Spikes terminal, long; leaves whorled; stem erect.

Synonyms.—*Callistachia v.*, R., and *veronica v.*, Linn.

Description.—This plant, found throughout this country, grows in dry and open situations. The root is irregular, very fibrous, of a dark or black color, and is a perennial. The stem is erect, round, and from three to six feet high, with leaves in whorls, and a long spike of white flowers.

Properties.—Cathartic, deobstruent, diaphoretic, tonic, antiseptic, and narcotic.

Employment.—The root alone is used, and is an efficient carthartic, operating with mildness and certainty, without producing debility or prostration, and is very proper in febrile and inflammatory diseases. In typhus and bilious fevers it is said to remove the black and morbid matter from the intestines in an easy and natural manner.

It is given with great advantage in dyspepsia connected with debility or torpidity of the digestive organs and bowels, and in functional derangement of the liver. In such cases, combined with the American Colombo, the golden seal, and capsicum, it is a valuable remedy.

It is a valuable agent in purifying the blood, and in improving the condition of the vitiated fluids and solids. It acts powerfully on the absorbent system, and is of utility in dropsies.

Dose.—Give a heaped teaspoonful of the powder in half a gill of boiling water, sweetened. Repeat in three hours, if it does not operate before. The weak, cold infusion is said to be the safest and best method of administering this medicine.

GENUS LYCOPUS.—**Calyx tubular, 5-cleft or 5-toothed; corol tubular, 4-cleft, nearly equal; one division broader and emarginate; stamens distant; seeds 4-retuse.**

NO. 7.—BUGLE.

Common Names.—Sweet-Bugle, Bugle-weed, Water-Bugle, Water-Horehound, &c.

L. VIRGINICUS.—**Leaves broad-lanceolate, serrate, at the base narrowed and entire; calyx very short.**

Description.—Root perennial, creeping, and fibrous; stem erect, commonly simple, somewhat rough, with four furrows and four obtuse angles; leaves opposite, sessile, acuminate, or attenuated and entire at both ends, remote, serrate in the middle, broad, lanceolate, somewhat rough, covered with glandular dots beneath; flowers sessile, in small axillary whorls, very small; two sublate bracts under each flower; calyx with four ovate-lanceolate and acute segments; corolla white, tubular, with four small round lobes; two stamina, hardly exert, filiform; style erect; four seeds, longer than the calyx, obovate, compressed. It is found growing near water, in ditches, creeks, swamps, &c., and blossoms in July and August; seeds ripen in September. This plant affords an essential oil; also a little tannin. To this oil the plant probably owes its active properties.

Properties.—Sedative, sub-tonic, sub-astringent, and mild narcotic. It is very useful in coughs, in hemoptisis (bleeding of the lungs), and in incipient phthisis. Drs. Pendleton and Rogers, of New York, have published a number of cases of incipient phthisis and hemoptisis cured by this article. Those properties have been confirmed by Drs. Smith, Ives, Lawrence, Rafinesque, and myself. In its action it somewhat resembles that of the digitalis, lowering the pulse, and lessening its frequency; allays irritation, cough, and equalizes the circulation; and is considered by Rafinesque "as one of the mildest and best narcotics in existence." It enters into the *Vegetable Sirup* of our pharmacopœia.

Employment.—It is most conveniently taken in the form of infusion, which is also said to be a good drink and wash for patients having indolent and badly-conditioned sores; and for fevers and bowel-complaints in their early stages, it will be acknowledged as an excellent assistant to other medicines, drank *ad libitum*.

GENUS MONARDA.—Corolla irregular, the upper lip linear, involving the filaments; seeds 4.

NO. 8.—OSWEGO TEA.

Common Names.—Mountain-Balm, Square-stalk, Red-Balm, &c.

M. DIDYMA.—Leaves ovate, acuminate, sub-cordate, somewhat hairy; flowers in simple or proliferous heads; outer bracts large, colored, lanceolate.

Synonyms.—*Purpurea*, Lk.; *coccinea*, Mx.

Description.—One of the handsomest plants of North America, with sweet leaves, and many heads of flowers of a bright scarlet. It is cultivated in the gardens of America and Europe for its beauty, and its medical properties give it additional value. The whole genus *Monarda* is beautiful, and peculiar to North America; it is dedicated to Monard, a French botanist. There are eighteen or twenty species known already, all more or less medical.

Properties.—Resolvent, tonic, febrifuge, nervine, diuretic, antiseptic, carminative, anti-emetic, &c.

Employment.—This herb is nearly or quite equal to the chamomile in intermittents, and is much esteemed in protracted illness where stimulants are required for a long time. It is said to be valuable in piles, ardor of urine, rheumatism, colic, paralysis, &c. We think it excellent in nausea and vomiting, and to produce perspiration in colds.

NO. 9.—HORSE-MINT.

Common Names.—Dotted Monarda, Origanum, &c.

M. PUNCTATA.—Smoothish; flower middling size, whorled; bracts lanceolate, colored, longer than the whorls; leaves lance-oblong, remotely serrate; stem obtuse-angled, with whitish down.

Synonym.—*M. lutea*, Mx.

Properties.—The properties of this plant are similar to the *M. didyma*, or Oswego tea, and I think it stronger and preferable to fulfil the same indications. The "*Ol. Origanum*" is the production of this plant.

Employment.—A strong decoction of this plant given warm and freely, is very efficacious for strangury, gravel, and suppression of urine; in very obstinate cases a warm hip-bath to be used at the same time.

GENUS OLEA.—Corol 4-cleft, the segments somewhat ovate; drupe 1-celled, 1-seeded.

NO. 10.—OLIVE.

O. EUROPA.—Leaves lanceolate, very entire; racemes axillary, close; tree evergreen.

Description.—This tree is a native of the south of Europe and north of Africa, and is cultivated in France, Spain, and Italy, for its fruit. An oil is made from its fruit by expression, which is known as the *olive* or *sweet oil*, and is the article used in medicine.

Properties.—Emollient, purgative, antiseptic, vulnerary, refrigerant, &c.

Employment.—Internally the oil is taken in doses of from 1 to 2 ounces, which operates as a cathartic, and is thus substituted for the castor-oil, as a more pleasant medicine; it is also preferable in cases where acrid and poisonous substances are in the stomach, and is useful in inflammation of the stomach and bowels and in dysentery. Externally it is used in frictions and gargles, and has been thought to be a specific for the bite of poisonous animals; several examples of its efficacy, which appear to be well authenticated, are found in the books. Its principal use, however, in modern practice, is in the composition of plasters and ointments. In the "Philosophical Transactions" (vol. xxxiv., page 310) are related the experiments of one William Oliver, who suffered his arm to be bitten by a viper, and waited until the most violent symptoms ensued, which were soon removed by applying the warm oil of olives to the affected parts.

Administered as an enema—2 to 4 ounces in a decoction of barley. It enters into our *Common Injection* and in the *Black Plaster* or *Salve.*

Adulterations.—This oil is often adulterated with cheaper vegetable oils, and recently with lard-oil. These adulterations ruin it for medicinal purposes. A mixture may generally be detected by shaking the bottle: if pure, the surface of the oil will soon become smooth by repose; otherwise, a number of air-bubbles or *beads* remain.

GENUS ROSMARINUS.—Corolla unequal, ringent, with the upper lip 2-parted; filaments long, curved, simple, with a recurved tooth.

NO. 11.—ROSEMARY.

R. OFFICINALIS.—Leaves sessile.

Description.—This is a shrubby perennial, native of the south of Europe, and found in France and Spain. From the flowers and tops, macerated in alcohol, is distilled the true *Hungary Water* of the perfumer. It yields an essential oil, which is the *Ol. Rosmarini* of the pharmacopœias.

Properties.—Tonic, aromatic, stimulant, astringent, emmenagogue, cephalic, stomachic, resolving, &c.

Employment.—The leaves are found in the shops; and in infusion are good in faintings, hysterics, asthma, apoplexy, nervous headache, &c. The essential oil possesses all the virtues of the plant; it is extensively used in liniments, and may be administered internally in doses of from 2 to 5 drops on sugar. The Hungary water is often applied to the forehead and temples with success in vertigo and hysteric affections.

Adulterations.—This oil is often adulterated with oil of turpentine; which may be detected by its odor on heated iron, or by its not being completely soluble in alcohol.

GENUS SALVIA.—Corol irregular, filaments transversely affixed to a pedicel; seeds 4, naked.

NO. 12.—SAGE.

Common Names.—Garden Sage, &c.

S. OFFICINALIS.—Leaves lanceolate-ovate, crenulate; whorls few-flowered; calyxes mucronate.

Description.—This is a common garden culinary herb, well known.

Properties.—Stimulant, carminative, tonic, diaphoretic, nervine, astringent.

Employment.—A large teaspoonful of the expressed juice may be taken twice a day; but the favorite preparation is an infusion of the leaves, without much nicety as to doses, which is good in languor, excitement of the nervous system, febrile affections, and in cold, phlegmatic habits; and is often used with advantage in putrid diseases, summer complaints, and for worms in children. One author has such a high opinion of this plant, that he thus observes: "Why dies the man whose garden sage affords?" It is a sudorific, producing perspiration, and is a popular remedy for colds, coughs, fevers, &c. We use it principally as a gargle, in aphthæ and quinsy.

NO. 13.—CLARY.

Common Names.—Clary Sage, Clammy Sage, &c.

S. SCLARA.—Leaves wrinkled, cordate, oblong, villous, serrated; bractea longer than the calyx, concave, acuminate, colored.

Description.—This is a useful herb, a native of Syria and Italy, and cultivated to some extent in this country for medicinal purposes.

Properties.—Astringent, stimulant, resolvent, sternutatory, and is stronger than the common sage.

Employment.—Used in infusion, and recommended in the dispensatories of the allopathists. It is undoubtedly an innocent agent, and is said to be sometimes useful in leucorrhœa, hysterics, colic, &c.

GENUS VERONICA.—Calyx 4-parted; corol cleft into 4 lobes, lower division smaller; capsule obcordate, few-seeded, 2-celled.

NO. 14.—BECCABUNGA.

Common Names.—Brook-Lime, &c.

V. BECCABUNGA.—Racemes opposite; leaves oval, obtuse, sub-serrate, glabrous; stem procumbent, rooting at the base.

Description.—This herb is a native of Europe and this country, generally found in ditches, growing from nine to eighteen inches. It is without odor, insipid to the taste, and oleraceous. The flowers are blue.

Properties.—Alterative, discutient, diuretic, &c.

Employment.—The herb in infusion is used in scurvy and to purify the blood, without much regard as to doses. The fresh plant may be eaten as food, or the juice may be taken in large quantities with advantage for these complaints. It is a valuable remedy for indigestion and consumption, and in the form of bitters it is good to regulate the menses, by removing obstructions, &c.

NO. 15.—SPEEDWELL.

Common Names.—Virginia Speedwell, &c.

V. OFFICINALIS.—Spikes lateral, peduncled; leaves opposite, obovate, hairy; stem procumbent, rough-haired.

Description.—This herb is found in the dry woods of Europe and in the southern and western portions of this country. It grows from nine to twelve inches in height, and bears a blue flower.

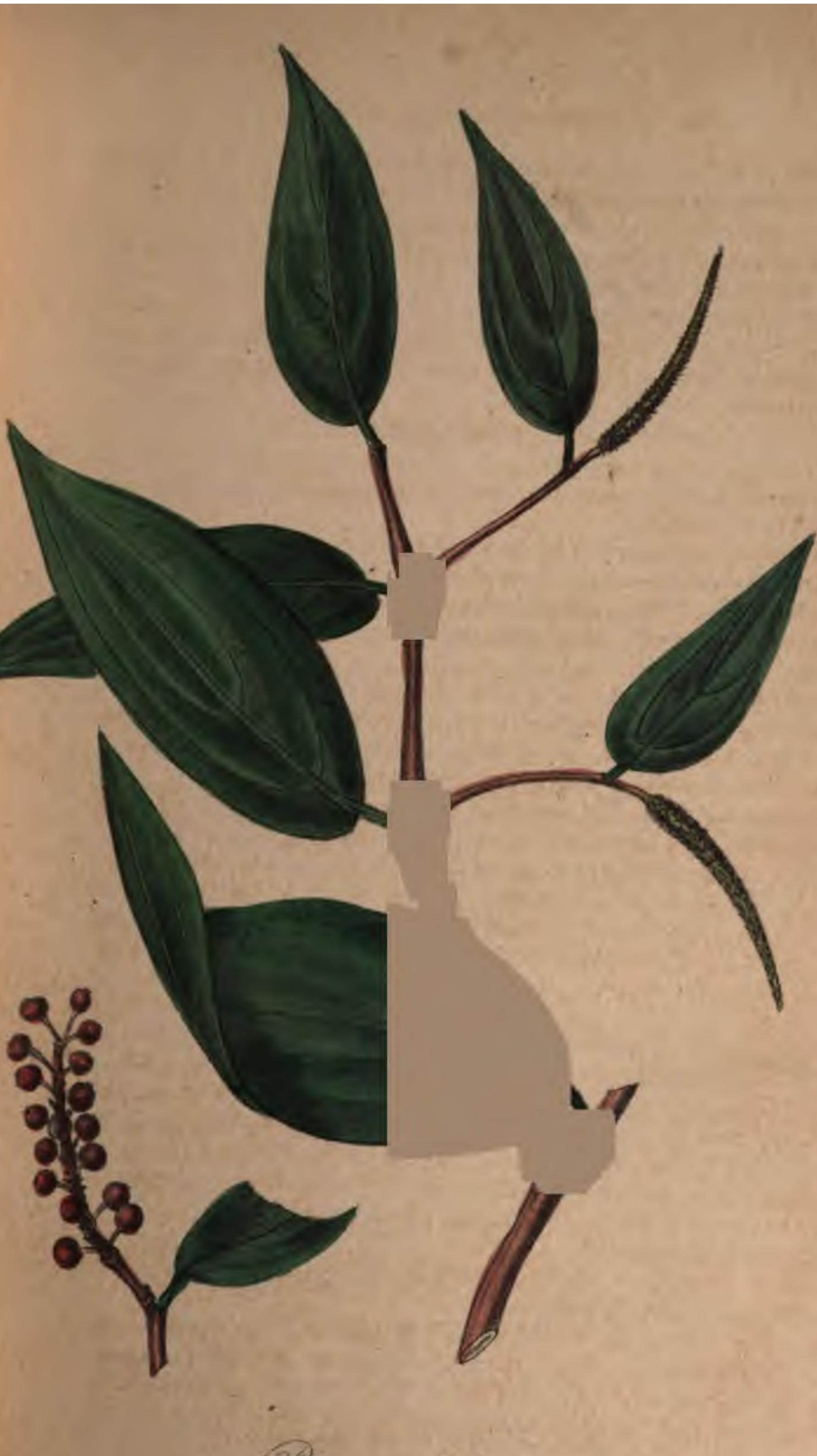
Properties.—Diuretic, diaphoretic, sub-astringent, vulnerary, tonic, pectoral, &c.

Employment.—The expressed juice of the fresh plant may be drank to the quantity of 4 spoonfuls three times a day with advantage in asthma, cough, &c., or an infusion of the herb as a beverage. The infusion is highly recommended to be drank freely in dropsy of the abdomen.

The following account of this plant was communicated by Mr. Prince, the venerable proprietor of the Linnæan Botanic Garden, at Flushing, Long Island: A relative of his was so far reduced with dropsy, that she was abandoned by her physician as incurable. In this condition her friends concluded to apply to a "root" or "Indian doctress," in hopes that something might be done. Some medicine was given her, and she returned home. The directions for taking it were, to add a suitable quantity of water to three handfuls of the herb or plant, and boil down to half a pint; then drink the whole. In a few weeks it carried off the water, and it never again returned. The husband procured the green plant, and raised it in his garden; and Mr. Prince also cultivated it in his garden at Flushing. He discovered the genuine botanical name of it to be the *Veronica*, or *Virginia Speedwell.*

Mr. Prince further informed me that he communicated this information to several physicians; but so prejudiced were they to the use of anything different from the established practice, that all refused to administer it, except a Dr. Ogden, who used it with the greatest success. Mr. Prince further states that it is equally efficacious in purifying the blood, for leprosy, &c., in which, to his knowledge, it was given with success.

On one occasion a Mr. Combs was nearly gone with the leprosy. He was in a most deplorable state. Mr. Prince went into his garden and procured some of the speedwell, and directed Mr. Combs's daughter to give it internally, and wash the ulcers with castile-soap and water. After this, he



Piper cubeba.

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heard no more of the case for some months, when a person called and asked him for some of the plant which cured Mr. Combs of his leprosy. He said that some one had it much worse than the other man, who was cured. It was given according to directions, and effected a permanent cure.

Order III. Trigynia.—Bearing flowers with but three styles or sessile stigmas.

GENUS PIPER.—Calyx 0; corol 0; berry 1-seeded; spadix simple, slender, covered with little flower-bearing scales.

NO. 16.—CUBEBS.

Common Names.—Java Pepper, &c.

P. CUBEBA.—Leaves elliptic-lanceolate, pointed, smooth, 5-ribbed, unequal at the base; spike solitary, on a peduncle opposite the leaves; berries on partial stalks.

Description.—This is an exotic, a native of Java. The dried unripe berries of this plant are what we find in the shops. They yield their properties to alcohol, and partially to boiling water. The oil is also kept by druggists.

Properties.—They possess the stimulant and carminative properties of the other peppers, and exercise a specific influence on the urinary organs in arresting urethral discharges.

Employment.—Pulverized, in teaspoonful doses, three times a day, in molasses, milk, or sweetened water. I have found them useful in discharges from the urethra, in gleet, &c., in their early stages; but in old cases I think them inefficient and probably injurious. The powder should be prepared as wanted, as its properties deteriorate rapidly. I do not approve of the use of the oil: its effects are uncertain, and inferior to the fresh powder.

Equal parts of the hydro-alcoholic extract of cubebs and solidified copaiva, made into pills, is one of the best preparations we have for gonorrhœa, gleet, and affections of the kidneys and bladder.

NO. 17.—BLACK PEPPER.

P. NIGRA.—Leaves broad-ovate, pointed, 7-nerved, coriaceous, smooth; spadix simple.

Description.—The berries are a well-known article of commerce, used for culinary purposes. It is a native of the continent of India, and is cultivated in the West Indies. The white pepper is the same article, with the outer husk removed.

Properties.—Acrid, aromatic, stimulant, and febrifuge.

Employment.—In substance it may be given from 5 to 20 grains. The infusion of the powdered berries is resorted to in flatulence, wind colic, indigestion, nausea, loss of appetite, diarrhœa, cholera, intermittent, scarlet, and typhus fevers. When in England, I happened to know a case of cholera where the patient refused the medicines of the attending physician, and prescribed for himself a large teaspoonful of powdered pepper in a wineglass of gin. Its effects were almost instantaneous, and the disease was cured. The berries, given as pills, 5 to 8 a day, have proved very efficient in intermittent fevers, colic, &c., while under the bark treatment. The PIPERIN, very valuable in intermittents, is a resin of the black pepper.

Four ounces of pepper in powder, mixed with a pound of lard, makes an ointment employed against *tinea capitis*.

Incompatibles.—Astringent vegetable preparations.

NO. 18.—MATICO.

Description.—This plant is a native of Peru, and supposed to be the *Piper angustifolium* of Ruiz and Pavon, of this class and order. The leaves, as imported, are attached to the stem, and the flowering spike is also often present. They have an aromatic, slightly astringent taste, and an agreeable aromatic odor, somewhat resembling that of sage, and yield their properties to alcohol and water. Two kinds of the herb are found in the shops, the green and the yellow. The latter appears to have been gathered when the plant was ripe, and is much more active in its effects. It was introduced to the notice of the profession but a few years ago by Dr. Jeffreys, of Liverpool. According to the analysis of Dr. Hodges, matico consists of a bitter principle (MATICINE), and an aromatic volatile oil, soft resin, coloring matter, salts, &c.

Properties.—It is found to possess styptic and astringent qualities, and has been employed internally in the same cases as other vegetable remedies of this class, over which it does not appear to possess any marked advantages. In external cases of hemorrhage, however, there can be no doubt of its being a styptic of much power, arresting bleeding from small blood-vessels, &c.

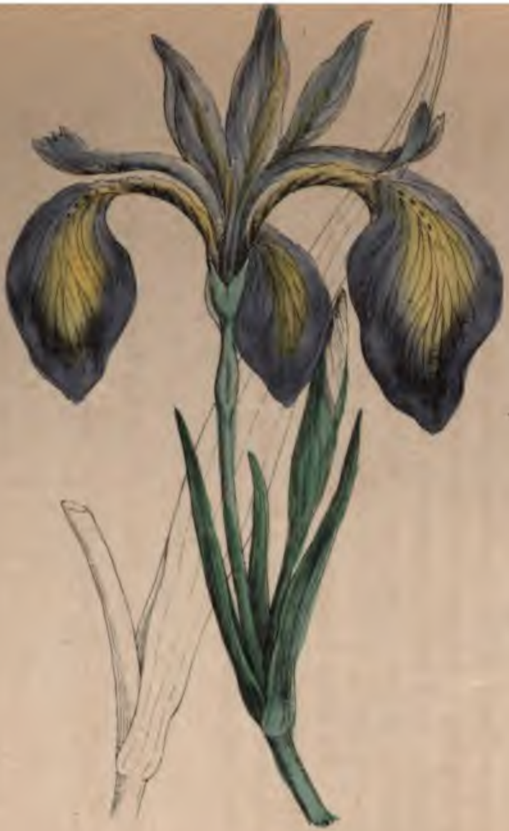
Employment.—Dose of the powdered leaves, from 10 grains to half a dram. The infusion is prepared from one ounce of the coarsely-powdered leaves in a pint of cold water, agitated two hours, and filtered; dose from 1 to 2 ounces two or three times a day. The tincture is made with 2 ounces of the herb in 16 ounces of spirit by maceration or percolation; dose from 1 to 2 drams. To arrest hemorrhage, the under side of the leaf is applied to the bleeding surface.

Incompatibles.—The mineral acids, the alkalies, the sesquisalts of iron, acetate of lead, and the tincture and infusion of galls.

Class III. Triandria.—Bearing flowers with but three stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS IRIS.—Calyx spathe 2 or 3-valved; corol 6-parted, divisions alternately reflexed; stigmas 3, petal-like; style short; capsule 3-celled.



Iris Versicolor.
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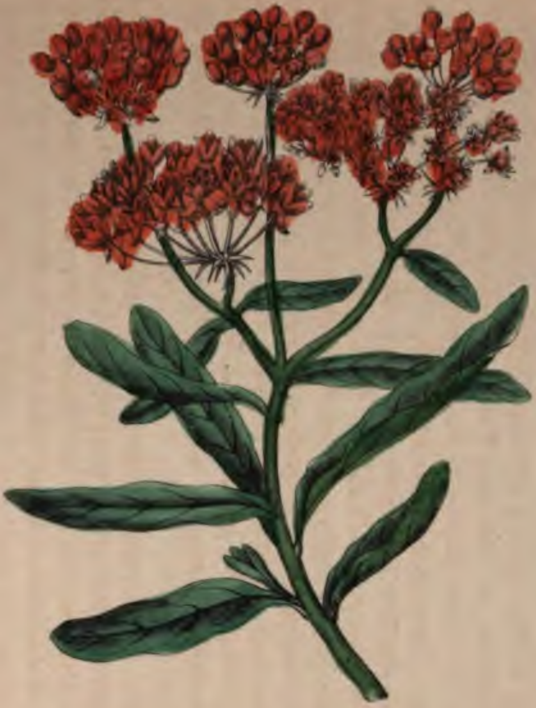

Asclepias Tuberosa.
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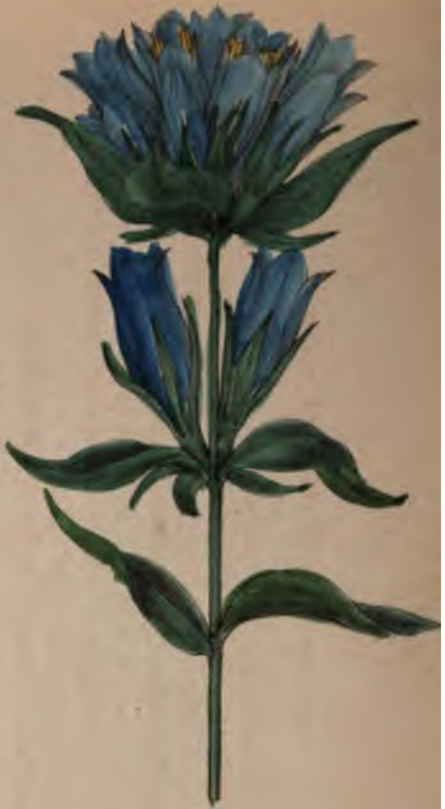

Gentiana Catesbæi.
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NO. 19.—ORRIS-ROOT.

Common Names.—Florentine Orris, &c.

I. FLORENTINA.—Perianth bearded; leaves sword-shaped, smooth, shorter than the sub-biflorous scape.

Description.—This species of the Iris is a perennial plant, a native of Carniola and some parts of the south of Europe. The flowers are very handsome, cultivated in gardens, and appear early in May. The root is thick and tuberous, and, as found in the shops, it is nicely pared and white, the cuticle and fibres being removed.

Properties.—Cathartic, hydragogue, emetic, and pectoral. It was formerly employed in dropsies, and said to have been useful in that complaint, but has gone out of use. In France and Germany, however, it is still used as an errhine, combined with other substances, and sometimes in pectoral compounds; but in England and in this country it is principally valued for its pleasant odor.

Employment.—As a dentifrice the powder is combined with charcoal, burnt hartshorn, armenian bole, dragon's-blood, &c. The root, cut round, about the size of a pea, is much used by the French for maintaining the discharge from issues, to which purpose it is well adapted by its odor, a slight degree of acrimony, and a property of swelling very much by the absorption of moisture. Ladies employ the powder as a perfume; but its immoderate use will produce unpleasant consequences, and sometimes even paralysis.

NO. 20.—BLUE-FLAG.

Common Names.—Flower-de-Luce, Flag-Lily, Snake-Lily, Liver-Lily, &c.

I. VERSICOLOR.—Leaves ensiform; stem acute on one side; capsules oblong, 3-sided, with acute angles.

Synonym.—*I. virginiana* of Bw. and Linn.

Description.—Root fleshy, horizontal, sending down a multitude of fibres; stem two or three feet high, round on one side, acute on the other; leaves sword-shaped; peduncles of various length, flattened on the inside; germ 3, covered with flat sides and obtuse angles; outer petals of the flower spatulate, beardless, the border purple, the claw variegated with green, yellow, and white, and veined with purple; inner petals erect, paler than the outer; style short, concealed; stigmas 3, petal-form, purple or violet, resting on the outer petals; stamens concealed under the stigmas, with oblong, linear anthers; capsule 3-celled, 3-valved; seeds numerous, flat.

Found throughout the United States, in the borders of swamps, and in wet meadows; flowering in June. The root has a nauseous taste, and, when held in the mouth, imparts a powerful sense of heat and acrimony to the fauces. "The most active constituent," says Bigelow, "appears to be a resin, which precipitates in the form of a white powder, when water is added to the alcoholic solution."

Properties.—Emetic, cathartic, stimulant, diuretic, anti-venereal, alterative, sialagogue, vermifuge, &c.; but the root is apt to occasion nausea, with prostration of strength. From the stimulating properties of this root, it is capable of exciting many of the secretions, as likewise the excretions. Dr. M'Bride, of South Carolina, found great benefits resulting from the use of this article, in combination with *Eryngium yuccifolium*, in dropsy. Dr. Bigelow administered the tincture of the iris, in small doses, to several persons affected with anasarca and hydrothorax. It was evidently of service in a majority of cases for a certain time.

Dr. Woodruff informs me that it is very valuable in several diseases. Given in doses of six or eight grains, night and morning, it proves gently laxative, and eradicates the most inveterate taint of the system. It is excellent in venereal and herpetic affections, fluor-albus, &c. It forms the basis of Smith's anti-mercurial sirup, which is given and recommended for syphilitic and many other complaints. "It is equally as efficacious as mercury," says Dr. Smith, "in all diseases in which, in the common practice, it is supposed mercury is indicated. It serves as an alterative and sialagogue in small, continued doses; as a powerful drastic purge, a stimulant, a vermifuge, a diuretic, errhine, &c. It is said to be a substitute for mercury, for any of its purposes; and, being a vegetable, far preferable, because, after having its operation and effect, it passes off and leaves the system free."

Employment.—The root given in powder as a cathartic, the dose is about 20 grains; but its activity very much depreciates by age. The fresh dried root is always to be preferred. The root in decoction is a good diuretic, and promotes discharge by urine, relieves dropsy, and is useful in liver-complaint, sore mouth, and ulcers. The leaves, in infusion, are a good medicine for worms in children, and for loosening the bowels. A sirup made from the blossoms may be used for the same purpose.

A very obstinate case of dropsy was cured by an infusion of equal quantities of blue-flag and male fern-root, taken three times a day—taking occasionally with it a little white wine. Its usefulness in liver-complaint probably suggested one of its common names. A member of the reformed school of medicine informed me a few days since, that he found a tincture of blue-flag an excellent remedy in these complaints, in doses of a teaspoonful three times a day, in a little sweetened water.

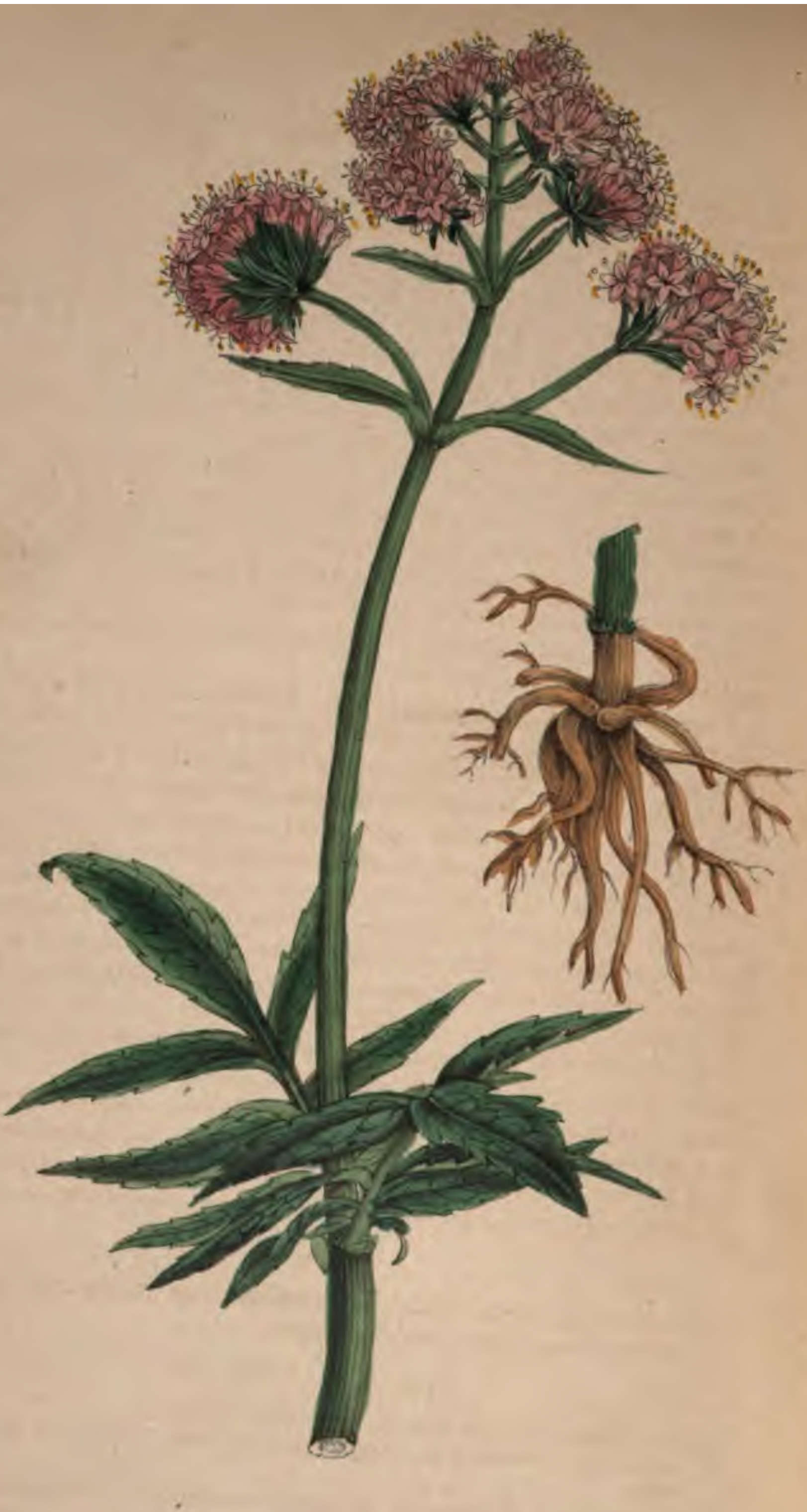
GENUS CROCUS.—Perianth petaloid, in six deep, equal segments; tube longer than the limb; stigmas convoluted.

NO. 21.—TRUE SAFFRON.

Common Names.—Spanish Saffron, Foreign Saffron, &c.

C. SATIVUS.—Leaves setaceous; stigma reflexed laterally, in three deep, linear, notched segments.

Description.—The root is a small bulb, standing upon a larger, with a multitude of fibres growing from the base. Four or five leaves arise from



Valeriana Officinalis.

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the root, of a dark-green, narrow and grassy, about five inches long; from the same root arises a stalk, four inches high, sustaining a single flower, resembling crocus. It has three stamina, with yellow anthers, and a centre; a long pistillum, which at the top divides into three cristated, fleshy capillaments, of an orange-color, which is the part used in practice. The plant is a perennial, a native of the Levant, and cultivated in Europe.

This substance is in long filaments, slightly rolled, flexible, elastic, of a very deep orange-red color, of a sharp and bitter taste, and of a strong, peculiar odor. It dyes saliva of a golden yellow.

Saffron contains an orange-red coloring matter, a very odorous volatile oil, acrid and caustic, a concrete fixed oil, gum, albumen, and salts. The substance which Bouillon, Lagrange, and Vogel, have denominated *Polychroite*, is but a compound of coloring matter and volatile oil. Water, alcohol, vinegar, &c., dissolve its active principles.

Properties.—Anodyne, exhilarating, anti-spasmodic, resolving, uterine, expelling, emmenagogue, and diuretic.

Employment.—In powder, 12 grains. Infusion, half to one dram, in two pounds of boiling water; very valuable in all eruptive diseases, as measles, small-pox, &c. In small doses, saffron is employed as a diaphoretic, soon causing perspiration; in large doses, it acts upon the whole animal economy in the same way as stimulants. It extends its action considerably to the uterus. It is useful to allay the lumbar pains which accompany menstruation in some females. It is useful also in chlorosis, hysteria, and diuretic diseases. It may be employed likewise as a stomachic and anti-spasmodic, and is very useful to determine eruptions to the surface in measles, small-pox, scarlet fever, and kindred diseases. It enters into the *Sudorific Drops* of our pharmacopœia.

Adulterations.—The imported saffron is often much adulterated. The petals of the *Carthamus tinctorius*, the *Calendula arvensis*, and fibres of smoked beef, are used for this purpose. The flowers may be detected, when soaked in hot water, by the difference in their structure, and the beef by the odor on the specimen being burned. Sometimes saffron is partially deprived of its virtues by previous infusion, a fraud detected by its paler color.

GENUS VALERIANA.—Corolla monopetalous, 5-cleft, gibbous at the base; seed 1, crowned with a feathery, radiating pappus.

NO. 22.—VALERIAN.

Common Names.—English Valerian, Shop Valerian, &c.

V. OFFICINALIS.—Stamens 3; leaves all pinnate; leaflets lanceolate, serrate, nearly equal.

Description.—A native of tne marshy meadows of Europe, and is cultivated for market. The smell is nauseous, and invites goats and cats. The volatile oil is produced from the root by ordinary distillation.

Properties.—Stimulating, anti-spasmodic, nervine, diuretic; but administered chiefly in view of its anti-spasmodic powers in hysteria and many nervous affections, lowness of spirits, restlessness, &c., and it is found to act most beneficially in diseases of the bladder.

Employment.—The dose of the powdered root is from ʒss. to ℥i.; of the oil Miij. to Mv. It was formerly used in obstinate intermittents, but is now employed in nervous diseases. The powder is a good method of exhibiting it, combined with a suitable quantity of mace. It will be found useful in aggravated cases of hysteria, epileptic and paralytic affections, &c. The extract enters into our *Nervous or Hysteric Pill.* It is much superior to the *Cypripedium pubescens* in all cases where a nervine is indicated.

Incompatibles.—The alkalies, the earthy and metallic oxydes, and all the salts of iron.

Class IV. Tetrandria.—Bearing flowers with four stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS CORNUS.—Calyx 4-toothed; drupe with a 2-celled nut.

NO. 23.—GREEN OSIER.

Common Names.—Swamp Sassafras, Round-leaved Dogwood, &c.

C. CIRCINATA.—Branches warty; leaves broad-oval, acuminate, white-downy beneath; cyme depressed.

Synonyms.—*C. tomentulosa*, Mx.; *C. rugosa*, Lk.

Description.—The round-leaved, also called alder dogwood, is a shrub with warty twigs, large, rounded leaves, woolly beneath: the flowers are in cymes, without involucrum. It grows from Canada to Pennsylvania. Prof. E. Ives, of New Haven, and Dr. A. Ives, of New York, extol this kind: they say it resembles the pale Peruvian bark, *Cinchona lancifolia.* An ounce of the bark yields, by boiling, one hundred and fifty grains of an astringent and intensely bitter extract. In use it is believed to be preferable to Colombo and *Cinchona cordifolia.* It is much employed in the northern states, in substance and otherwise, for diarrhœa, dyspepsia, &c., but is too heating in fevers.

Properties.—Anti-scorbutic, bitter astringent, aromatic, and tonic. The bark possesses properties very similar to the boxwood, and is much used as an astringent and tonic. It strengthens the digestive powers, and is useful in all scorbutic affections and for inflamed eyes. Combined with sarsaparilla, burdock, and prince's pine, it forms one of the best purifiers of the blood we know of; and is valuable in salt-rheum, scrofula, cancerous humors, itch, and all cutaneous diseases.

Employment.—Of the infusion, the dose is a wineglassful two or three times a day. The fresh leaves, slightly bruised and wet with vinegar, are an excellent application to a bruise or to any inflamed part.

NO. 24.—BOXWOOD.

Common Names.—Dogwood, &c.

C. FLORIDA.—Leaves ovate, acuminate; involucres 4, somewhat obcordate; fruit ovate.

Description.—The dogwood-tree is of slow growth, very compact wood, covered with a rough, broken bark. The branches are smooth, with a reddish bark, marked with rings at the place of the former leaves. The leaves, which are small at the flowering time, are opposite, petioled, oval, acute, entire, nearly smooth, paler beneath, and marked, as in others of the genus, with strong parallel veins. The flowers are small, grow in heads or sessile umbels, upon peduncles an inch or more in length. At the base of each bunch is the large, spreading involucrum, constituting the chief beauty of this tree when in bloom. This involucrum is composed of four white, nerved, obovate leaves, having their point turned abruptly down or up, so as to give them an obcordate appearance. This point has frequently a reddish tinge. Calyx superior, somewhat bell-shaped, ending in four obtuse, spreading teeth. Petals 4, oblong, obtuse, reflexed; stamens 4, erect; the anthers oblong, with the filaments inserted in their middle; style erect, shorter than the stamens, with an obtuse stigma. The fruit is an oval drupe, of a glossy scarlet color, containing a nucleus with two cells and two seeds. It is one of the chief ornaments of our forests, not usually reaching the height of more than twenty or thirty feet, and is among the most conspicuous trees. In the months of April, May, and June, according to its latitude, it is covered with a profusion of large and elegant flowers. It is found throughout the United States, but more plentifully in the middle states. In the Carolinas, Georgia, and Florida, it is confined principally to the borders of swamps. It is not very common in the most fertile parts of the western states, being found where the soil is of secondary quality.

The bark of the root, stem, and branches, tastes very much like the *Cinchona;* it is bitter, astringent, and slightly aromatic. Its astringency is, however, stronger than that of the Peruvian bark. Besides tannin, coloring matter, gum extractive, &c., this bark contains an alkaline proximate principle, discovered by Mr. G. W. Carpenter, of Philadelphia, and called by him *Cornine*, and afterward *Cornia.*

Properties.—Tonic, astringent, antiseptic, &c. The bark of the root, stem, and smaller branches, is employed, and will be found a valuable remedy in bilious disorders, jaundice, and low spirits. That of the root is deemed most efficacious. The berries and flowers are also employed. The bark, which has been ably investigated by Dr. Walker, of Virginia, is without doubt one of our most valuable native articles. As a substitute for *Cinchona*, which it resembles very much, in its physical and chemical as well as therapeutical properties, much has been written in commending it as a succedaneum. It seems, however, to be more particularly related to the *Cinchona oblongifolia;* but the *Cornus florida* differs from it, in its being rather more astringent. It is extensively employed by country practitioners in intermittent fevers, and the report they give of it is very favorable and satisfactory. It is undoubtedly one of the most useful of our indigenous plants. Dr. Gregg, of Bristol, observes that he exhibited it for nearly twenty-three years, during which time he found it always sufficient to cure successfully intermittent fevers, and uniformly beneficial as a tonic in cases of debility.

Employment.—The bark may be used in doses of from a scruple to a dram; repeated in cases of intermittents, so that from 1 to 2 ounces may be taken between the paroxysms. The dried bark is preferable, possessing all the activity of the fresh, and is less liable to cause unpleasant symptoms in the stomach. The infusion is also frequently used: one ounce of the bark to a pint of boiling water. The ripe fruit, infused in spirits, makes an excellent tonic bitters.

NO. 25.—ROSE-WILLOW.

Common Names.—Red-rose Willow, Red Osier, Red-rod, Swamp Dogwood, &c.

C. SERICEA.—Branches spreading; branchlets woolly; leaves ovate, acuminate, rounded at the base, rusty-pubescent beneath; cymes depressed, woolly; berries blue.

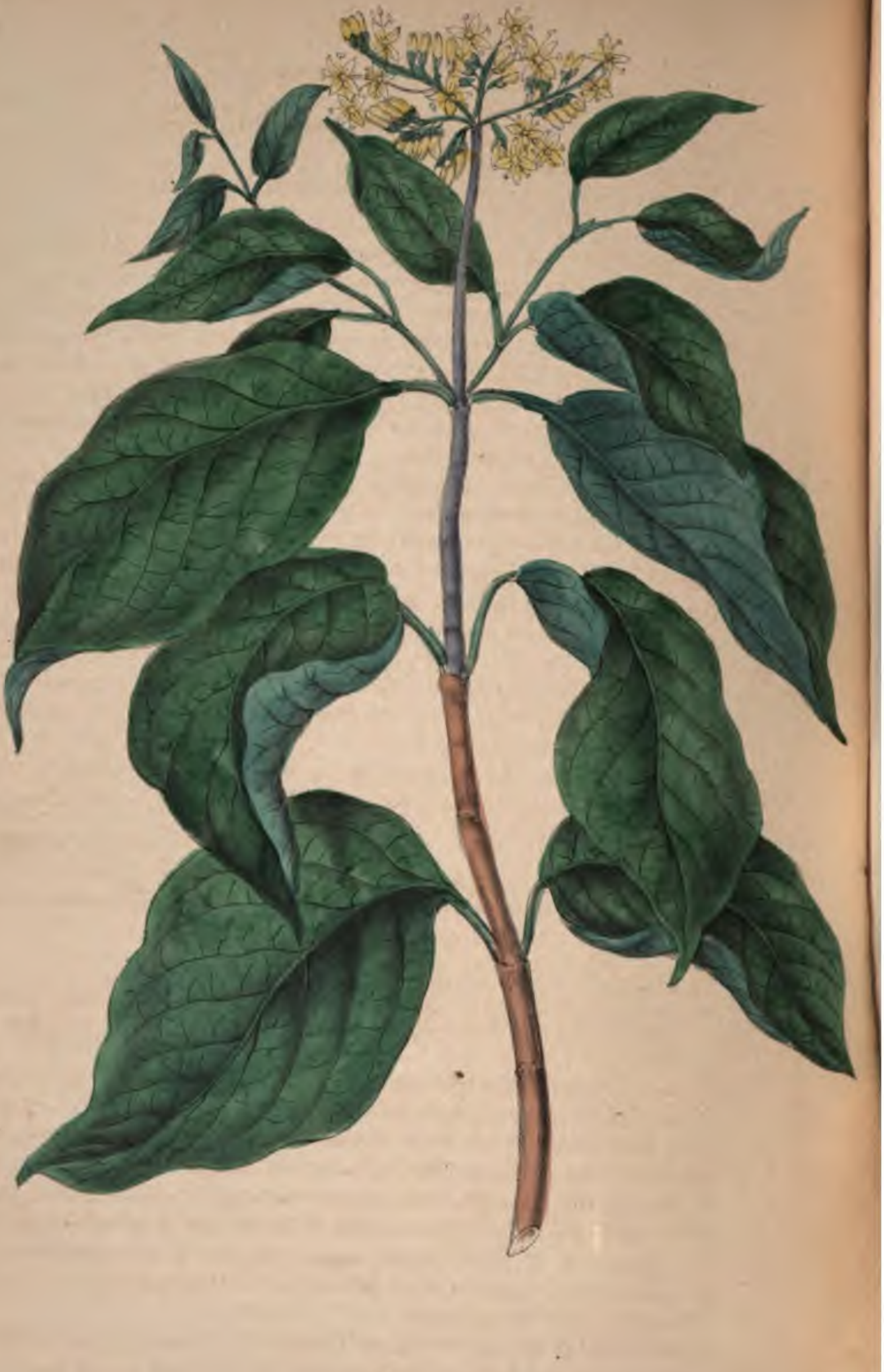
Synonyms.—*C. lanuginosa*, Mx.; *C. alba*, Wr.; *C. rubiginosa*, Eh.

Description.—This tree is about the size of a small apple-tree, and covered with a greenish-colored bark, and very red within; the flowers resemble a bunch of roses, whence it derives its name. It grows near brooks, along the banks of rivers, and on upland meadows. It is known throughout the United States by the name of red-rose willow, which distinguishes it from the black willow, or the puss-willow, which grows in swamps and along the sides of moist meadows.

Properties.—It is a powerful astringent and tonic, preferred by some in intermittents to the Peruvian bark or Colombo, and is much employed in the northern states, in substance or otherwise, in diarrhœa and dyspepsia; but it is too heating in common fevers. In vomiting, this is an excellent remedy, given in form of an infusion, particularly in the vomiting arising from pregnancy and diseased uterus. This is a valuable article, healing and purifying, and is a popular remedy for sore eyes. It is very beneficial in restraining relaxing complaints to which females are subject, having a tonic and strengthening effect upon the system, and is found useful in the treatment of the whites, immoderate flow of the menses, &c.

Employment.—Mostly administered in the form of infusion. Another mode is to make a strong decoction of one pound of the bark boiled to three quarts, to which add three pints of port wine and four ounces of loaf-sugar, and take a teacupful three times a day until well. This will be useful in gleets, using the pure decoction as an enema.

GENUS FRASERA.—Calyx deeply 4-parted; corol 4-parted, spreading; segments with bearded glands in the middle; capsule compressed, sub-margined, 1-celled, 2-valved; seeds few, imbricated, oval, with a membranaceous margin.



Cornus Sericea

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NO. 26.—AMERICAN COLOMBO.

Common Names.—Pyramid-Flower, &c.
F. CAROLINIENSIS.—Leaves whorled or opposite; flowers in clusters.
Synonym.—*F. walteri*, Mx.

Description.—A handsome indigenous plant, growing luxuriantly in the rich glades of the western states, sometimes attaining the height of ten feet, bearing a large pyramid of crowded yellowish-white flowers, sometimes three or four feet long. The plant is smooth, round, erect, solid, with few branches except at the top. Its seed grows in pods, like a horse-bean, but resembling the parsnep-seed. The root is large, yellow, tuberose, hard, horizontal, spindle-shaped, long, with few fibres, and of a sweetish-bitter taste, like the gentian. Leaves bitter.

Properties.—Tonic, antiseptic, and febrifuge. The virtues are completely yielded to proof spirits. Its relation to the imported colombo is very striking; but it is not so energetic in its action, and will hardly supersede it; yet it is very extensively used and with success in cases requiring mild tonics, diseases of the stomach, debility, fevers, indigestion, jaundice, &c. As a purgative, the fresh root has been given to children and pregnant women, in which state the root operates, it is said, as an emetic as well as a cathartic; but the dried root is generally employed. "It has cured a widespread gangrene of the lower limbs," says Dr. Smith, "by its internal and external use, and it avails in intermittents, &c."

Employment.—The powdered root in doses of from 30 grains to a dram. Infusion, one ounce of the bruised root to a pint of boiling water: a wineglassful several times a day.

GENUS GALIUM.—Calyx 4-toothed; corol flat, 4-cleft; fruit dry; seeds 2, roundish

NO. 27.—CLEAVERS.

Common Names.—Clivers, Catch-weed, Goose-grass, Bed-straw, &c.
G. APARINE.—Stem limber, scabrous backward; leaves in about eights, linear, and linear-oblanceolate, mucronate, hispid above, margin and keel prickly; fruit hook-bristled.

Description.—This herb grows in the moist meadows and hedges of this country, from three to eight feet high, creeping upon bushes and fences. The stem is square, armed at the angles with sharp teeth; leaves small, growing at the joints, and flowers small and white.

Properties.—Diuretic, lithontriptic, discutient, tonic, and sudorific. It justly ranks among our most reliable diuretics, and is peculiarly applicable in suppression of urine, gravelly complaints, and when obstructions exist proceeding from cold and slimy substances in the kidneys and bladder, as it effectually clears the passages.

Dr. Smith ("Botanic Physician") remarks: "Cleavers is one of the most valuable diuretics that our country produces; an excellent and speedy medicine in all suppressions of the urine and gravelly complaints, and is a powerful discutient. It has been found beneficial in the cure of scurvy and spitting of blood. The expressed juice of this plant, mixed with oatmeal to the consistence of a poultice, and applied cold over an indolent tumor, three times a day, keeping the bowels open in the meantime by castor-oil, and taking a tablespoonful of the juice every morning, will often disperse it in a few days. It is an admirable remedy in gravelly disorders, often curing them entirely alone. It seems to possess a solvent power over the stone or gravel, crumbling it into a sandy substance, so that it is discharged without difficulty. In inflammatory affections of the kidneys and bladder, the cleavers infusion is peculiarly applicable, from its cooling as well as diuretic quality. It gives great relief in the scalding of the clap."

Employment.—In infusion, which should always be made in cold water, 4 ounces to a quart, and drank freely and often.

GENUS ICTODES.—General calyx a spathe; spathe ventricose, ovate-acuminate; spadix sub-globular, covered with perfect flowers; petals 0; calyx deeply 4-parted, permanent; segments cucullate, becoming thick and fleshy; style 4-sided; stigma minute; seeds immersed in the spongy receptacle.

NO. 28.—SKUNK-CABBAGE.

Common Names.—Meadow-Cabbage, Swamp-Cabbage, Fetid Hellebore, &c.

I. FŒTIDA.—Stemless; leaves radical, heart-ovate, very large; spadix supporting the flowers in a sub-globose head.

Synonyms.—*Pathos fœtida*, Mx.; *symplecarpus fœtidus*, Nutt.

Description.—Spathe ventricose, ovate, acuminate; spadix roundish, covered with hermaphrodite flowers; calyx deeply 4-parted, persistent; segments cucullate, truncate, becoming thick and spongy; petals none; style pyramidal, 4-sided; seeds solitary, immersed in the spongy receptacle; leaves very large, smooth, and green, strongly veined and entire, preceded by conspicuous sheating stipules. Its flowers are among the first that appear in the spring, from February to April, according to its latitude. A perennial, native plant, growing in boggy woods and swamps, and other moist places, throughout the United States.

Root verticillately fibrous, truncate; fibres whitish, colored with brownish-red rings. Every part of the plant, even the seeds, is imbued with a peculiar fetid smell, resembling that of asafœtida, or the odor of the skunk or polecat—whence its name. It seems to contain a volatile acrid principle, readily dissipated by heat; a resinous substance, and a gummy or mucous principle. The seeds contain a considerable quantity of fixed oil, and are efficient, like the root.

Properties.—The root of this plant is expectorant, tonic, nervine, diaphoretic, and is possessed of anti-spasmodic properties, similar to asafœtida and other fetid gums. It is very useful in spasmodic asthma, and is highly recommended in this disease by the Rev. Dr. Cutler. Dr. Thatcher, on the authority of a correspondent, says that two teaspoonfuls of the pulverized root of this vegetable gave very prompt and effectual relief in a case of hysteria, after the ordinary remedies for such cases had been used without benefit. This root pulverized, and given in cold, phlegmatic habits of the body, attended with chronic cough, will produce the most decided benefits. In the *tussis senalis*, or cough of old people, it may be administered with benefit, relieving the cough and difficulty of breathing; and it is often administered with decidedly beneficial effects in coughs, catarrhs, consumption, pleurisy, asthma, flatulent colic, and rheumatism; and I am told that it is favorably spoken of as a remedy in fevers, inflammation of the lungs, bilious colic, &c. It is adapted to that state of the system where there is diminished nervous or muscular energy, and where torpor, deficient or morbid secretions of the alimentary organs exist, unattended with irritability. In diarrhœa it is very advantageously combined with astringents. Age and exposure dissipate the active properties of the article.

Employment.—The fresh powdered root may be given in teaspoonful doses, in pills, or mixed with some sirup. A tincture or sirup may likewise be made from the root and seeds. Of the pulverized seeds, 10 grains is a full dose.

GENUS MITCHELLA.—Calyx 4-toothed; corols 2 on each germ, tubular, limb 4-parted, spreading, villose inside; stamens nearly exsert, berry double, 4-seeded; stigmas 4 or 4-cleft.

NO. 29.—PARTRIDGE-BERRY.

Common Names.—Squaw-Vine, Checkerberry, One-berry, Winter Clover, &c.

M. REPENS.—Stem creeping; leaves roundish, petioled, opposite.

Description.—This is a small evergreen, perennial, procumbent vine, found in woods, generally among hemlock timber in swampy places. It has small, round, green leaves, with a white flower, and a bright-scarlet berry.

Properties.—It is a famous remedy among the Indians for difficult parturition: the squaws drink it in decoction for two or three weeks previous to and during delivery. It is a mild diuretic, and may be advantageously used in the treatment of suppression of urine, dropsy, and gout. I consider it a valuable herb, and one that is growing more extensively into use. It is highly esteemed by some as a remedy in diarrhœa and piles.

Employment.—It yields its properties to water, and may be taken in infusion or made an ingredient in sirups for the above complaints. The herb and the berries are both used, and in infusion it may be drank freely.

GENUS PLANTAGO.—Calyx 4-cleft; corol 4-cleft, with a reflected border; stamens very long; capsule superior, 2-celled, opening transversely.

NO. 30.—PLANTAIN.

Common Names.—Large Plantain, Round-leaved Plantain, &c.

P. MAJOR.—Leaves ovate, nearly glabrous, shorter than the petiole; scape round; spike with imbricate flowers; seeds numerous.

Description.—This plant has a fibrous root, sending out long oval leaves, irregularly dentated, of a pale-green color; the under surface is nerved there are generally from five to nine leaves. The flower-stem grows from six inches to a foot in height, crowned with a spike of clustered flowers, which are very small. This plant is indigenous to this country, and is found growing plentifully in meadows, pastures, by road-sides, and in gardens.

Properties.—It is possessed of refrigerant, vulnerary, antiseptic, anti-herpetic, detergent, and sub-astringent properties. It is held in high repute by some in the cure of bites from poisonous serpents and insects, and is often employed in visceral obstructions, hemorrhages, consumption, and dysentery.

It was recorded in a Virginia paper that a gentleman was bitten above the knee by a spider. A few minutes after, he felt a pain shooting upward from the spot, which soon reached his heart. A quantity of plantain was immediately gathered and bruised, and the juice squeezed out and swallowed, which stopped the progress of the poison, and a cure of the bite was obtained.

Culpepper says, if the juice of it be purified, and drank for several days, it will prevent all "torments and excoriations" of the bowels. Dioscorides thought it to be of service in tertian agues. The leaves make an excellent ointment for erysipelas, tetter, or salt-rheum. It is also remarkably efficacious in poisons of all kinds.

A negro at the south obtained his freedom by disclosing a nostrum for the bite of snakes. It consisted in giving the expressed juice of plantain and horehound, in equal parts: a tablespoonful, to be repeated as often as the stomach would bear, and the same to be applied to the wound.

A writer states that a toad, in fighting with a spider, as often as it was bit, retired a few steps, ate of the plantain, and then renewed the attack. The person deprived the toad of the plant, and it soon died.

Employment.—The best mode of administration is hinted at above. For the want of the fresh plant, the dried leaves may be used, prepared by boiling in milk. It will be found useful in menstrual complaints, and in the treatment of the whites, piles, salt-rheum, and as a vulnerary.

Order II. Digynia.—Bearing flowers with but two styles or sessile stigmas.

GENUS APHANES.—Calyx 2-cleft, alternate; segments minute; petals none; stamens minute; styles 2; seeds 2, covered by the converging calyx, one of them often abortive.

NO. 31.—PARSLEY-PIERT.

Common Names.—Breakstone, &c.

A. ARVENSIS.—Leaves 3-parted; divisions 3-cleft, hairy; flowers axillary, glomerate; monandrous.

Description.—This plant is an annual, indigenous to Europe and the southern portions of this country, particularly Maryland.

Properties.—Lithontriptic, refrigerant, and tonic. It is a very valuable remedy in gravel and all diseases of the kidneys and bladder. When in London, a gentleman informed me that his father, after long laboring under a very serious and apparently incurable gravel-complaint, was advised to resort to this plant, which soon completely removed it. I purchased some of an herbalist in Covent Garden, and the proprietor stated to me that nothing better could be used for the gravel. It deserves attention, and I recommend it to the notice of physicians.

Employment.—Take an ounce of the plant and pour on one pint of boiling water; infuse, but not boil. Dose, a gill three times a day.

GENUS HAMAMELIS.—Involucre 3-leaved; proper calyx 4-leaved, corol 4-petaled; petals long, linear; filament short, broad; anthers adnate; nut 2-celled, 2-horned.

NO. 32.—WITCH-HAZEL.

Common Names.—Winter Witch-Hazel, Snapping Hazelnut, Winter-bloom, &c.

H. VIRGINICA.—Leaves alternate, obovate, acute, obliquely obcordate, margin uneven.

Description.—This shrub rises from six to ten feet in height, with irregular branches, flexuous and knotty; bark smooth, gray, with brown dots; leaves rather large, smooth, alternate, petiolate, obovate; margin with unequal, faint teeth, commonly obtuse; nerves prominent; flowers on short pedicles, clustered three to five together, in several places along the branches; calyx small, but enlarged with the fruit, with three or four scales at the base; divided into four thick, oval, pubescent segments; petals yellow, much longer, linear, obtuse, often undulate, or revolute; stamens four, opposed to petals, shorter than the calyx; pistil oval, central, short style, two obtuse stigmas; fruit a nut-like capsule, similar to a hazelnut. It blossoms in winter, when no other tree is in bloom. The blossoms remain from October until February. The fruit remains on throughout the whole year till the next fall, and then explodes with a noise, scattering the seeds around. Found from New England to Carolina and Ohio; commonly on hills and mountains, near stony banks of streams; rare in plains, &c. The bark and leaves are somewhat bitter, very astringent, leaving a sweetish, pungent taste, which remains some time.

Properties.—Sedative, tonic, astringent, discutient, &c.; is valued very highly and much used by the Indians. They apply the bark, which is sedative and discutient, to painful tumors and external inflammation. A cataplasm of the inner bark is very efficacious in removing painful inflammation of the eyes. An infusion made of the leaves is a very useful astringent in hematemesis (bleeding at the stomach), bowel-complaints, and menstrual effusions. The bark likewise affords an excellent topical application in piles (hemorrhoids), falling of the bowels and womb, and as snuff for bleeding at the nose. It is a favorite remedy with Botanic physicians of every class.

Employment.—This article may be given internally in the form of infusion; externally as a poultice in foul ulcers, &c.; and in the form of a strong decoction as an injection into the vagina, for prolapsus, or falling down of the womb; and as a wash for falling of the intestine.

Class V. Pentandria.—Bearing flowers with but five stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS ANCHUSA.—Corolla closed, with concave, obtuse valves; funnel-shaped, tube straight, tumid below; akenia concave at the base.

NO. 33.—ALKANET-ROOT.

Common Names.—Dyers' Alkanet, Bugloss, Anchusa-Root, &c.

A. TINCTORIA.—Downy; leaves lanceolate, obtuse; stamens shorter than the corolla.

Description.—This is a perennial plant, a native of the south of Europe, and is there cultivated for market. The root is woody, long, round, tapering, branched, and covered with blackish-red colored bark. As met with in commerce, it is inodorous and nearly tasteless. The beautiful red coloring matter with which the root abounds is yielded freely to alcohol, ether, and oils, but not to water.

Properties.—This plant was formerly administered as an astringent, but has given place to medicines more worthy of regard. It is now employed for coloring oils, lip-salves, ointments, and plasters—imparting a beautiful red color, while they preserve their transparency.

Adulterations.—The roots of the borage (*Borago officinalis*) are occasionally boiled in a decoction of Brazil-wood, and sold for alkanet; but the fraud may be detected by the substitute failing to yield its color to the fixed oils.

GENUS ANAGALLIS.—Calyx 5-parted; corol wheel-formed, deeply 5-lobed; capsule opening transversely, globose, many-seeded; stamens hairy.

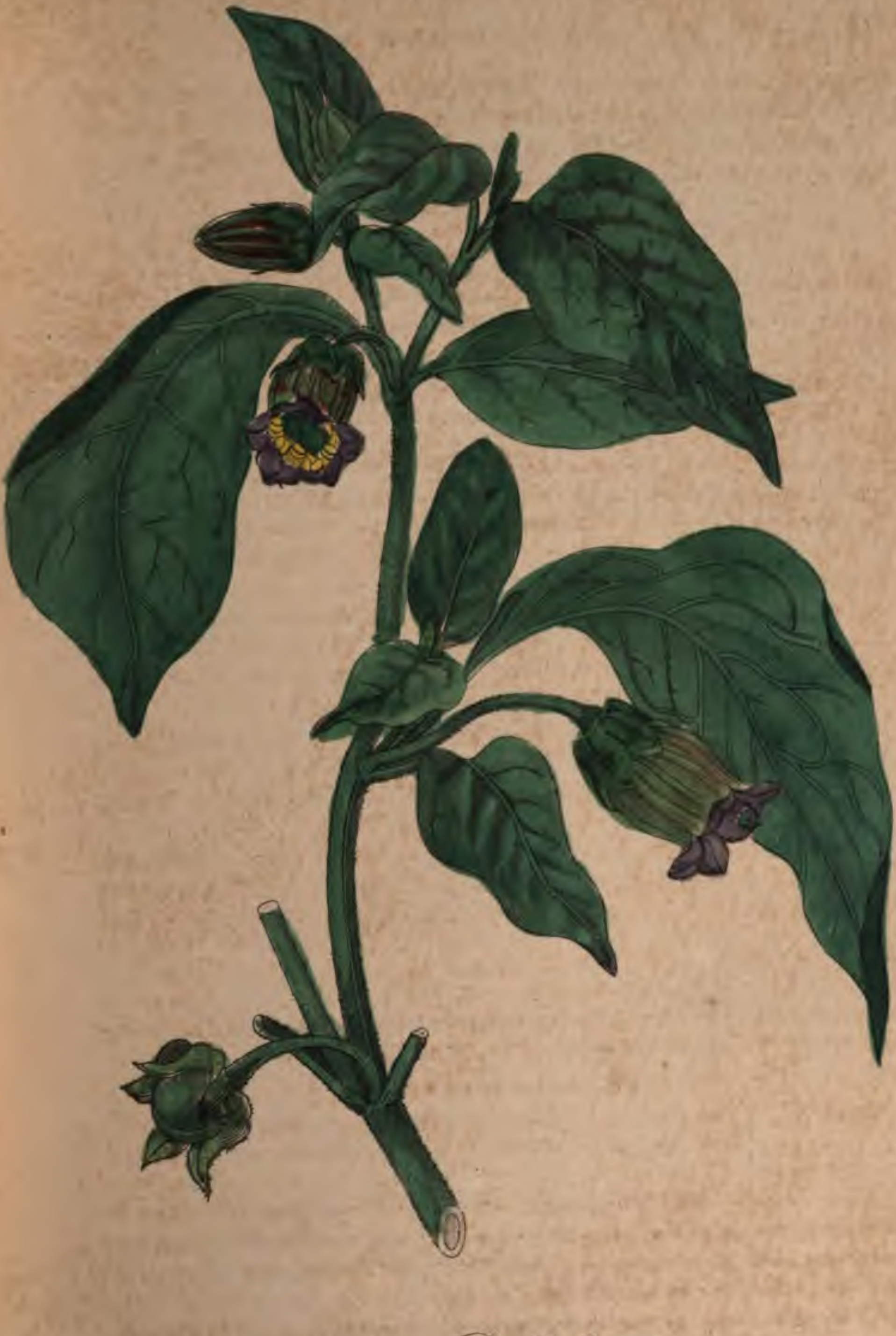
NO. 34.—PIMPERNEL.

Common Names.—Red Pimpernel, Scarlet Pimpernel, Red Chickweed, &c.

A. ARVENSIS.—Stem spreading, naked, procumbent; petals entire, flat, with hairs at the margin.

Description.—This is an exotic annual, introduced from Germany. It has weak, square stalks, lying on the ground, with two roundish leaves, opposite, at each joint, resembling chickweed; the flowers stand singly, of a pale-red color; the root is fibrous.

Properties.—Inodorous, tonic, diaphoretic, and antiseptic. The Germans esteem it infallible in hydrophobia, and it is a useful medicine in melancholy or monomania.



Atropa Belladonna.

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Employment.—The dose in hydrophobia is half a teaspoonful of the powdered herb, repeating it in eight hours, which creates a profuse perspiration, and usually throws off the poison. The decoction makes an excellent wash for cleaning old ulcers. Applied as a poultice, it draws out thorns and extraneous substances from the flesh.

GENUS ATROPA.—Corol monopetalous, campanulate; stamina distant, incurved; berry superior, globular, 2-celled.

NO. 35.—BELLADONNA.

Common Names.—Deadly Nightshade, Dwale, &c.

A. BELLADONNA.—Stem herbaceous; leaves ovate, entire; berries black.

Description.—Root very thick, whitish, sending forth strong purple-colored stalks, of from three to four feet in height; leaves oval, acute, large, of a dark-green color; flowers large, of a tarnished red, solitary and hanging, bell-shaped, furrowed, the border of which is cut into five segments. It is a perennial plant, a native of the south of Europe, Austria, and England, and flowers from June to August. Its fruit is ripe in September, when it is black. It is found growing in stony and shady places, along old walls and fences, and among old ruins, and is now extensively cultivated in the botanical gardens of this country. It is possessed of a disagreeable smell, and nauseous and acrid taste. According to Brande, it contains a bi-malate of atropia, gum, starch, resin, chlorophile, lignin, a matter analogous to osmazome, some salts, &c. The active principle is the *Atropia*, and is now believed to be identical with the vegetable alkaloids which have been denominated *Daturia* and *Hyosciamia.*

Properties.—The belladonna, taken in large doses, is a narcotic, acrid poison, which enters into the circulation, and causes death quickly. In small doses it irritates the stomach, and produces heaviness of the head, vertigo, dilatation of the pupil, irregularity of the pulse, &c. This plant, notwithstanding its poisonous quality, is used with great benefit externally, in the cure of cancers, and in discussing indolent tumors and schirrosities in the breasts of females and other parts of the human body. It is a strong narcotic, anodyne, anti-spasmodic, and repellant, and many physicians employ the leaves and extract in mania, epilepsy, nervous complaints, long-continued fever and ague, hooping-cough, rheumatism, gout, and dropsy; but the result of my experience is, that all the indications sought for may be fulfilled by agents far less dangerous in internal administration. Externally, however, it is a valuable application, and enters into our *Discutient Ointment.*

One of its most decided effects I have seen in neuralgia: the extract, enclosed in a linen bag, and applied over the eyebrows or the seat of the disease, a short time before the anticipated attack, is almost infallible in its operation. I attended a lady in England who informed me that in her case this application never failed of affording speedy relief. I have just seen a lady in this city who suffered a most excruciating pain caused by the absorption of carcinomatous virus, which was immediately relieved by applying a plaster of this extract.

Employment.—Belladonna is frequently made use of by oculists for the purpose of dilating the pupil of the eye. A lady in England, blind from cataract, was partially restored to sight by applying a drop of the tincture to each eye daily: it enlarged the pupil beyond the opacity. Belladonna is a favorite medicine in homœopathic practice, given in infinitesimal doses in quinsy, and is highly extolled as an antidote in scarlatina. I have no experience in this, but if given at all, *such doses* are by far to be preferred; and the testimony of its usefulness, thus administered, is worthy of consideration. The leaves and roots, either green or dry, may be simmered in soft water, until the strength is extracted; then slippery-elm bark may be stirred in till a poultice is formed. It may be applied to boils and all hard, painful, glandular swellings. In cases of poisoning from this or any other vegetable narcotic, even opium, give a double dose of our emetic as soon as possible, with a wineglass of common lamp-oil, followed by as much tepid water as can be drank. Mustard can be substituted, when the emetic is not at hand.

GENUS BORAGO.—Corol wheel-form; the throat closed with rays.

NO. 36.—BORAGE.

Common Names.—Common Bugloss, &c.

B. OFFICINALIS.—Leaves alternate; calyx spreading.

Description.—This is an annual, hairy, succulent, European plant, with fine blue flowers, which is extensively cultivated in the medical gardens of this country. All parts of it abound in mucilage, and the stem and leaves contain the nitrate of potassa, with other saline ingredients, to which the plant owes its virtues. It is much used in France, and the German physicians of this country prescribe it often and freely in their practice.

Properties.—Stomachic, diaphoretic, and demulcent. It is useful as a remedy in catarrhal and rheumatic affections, and in cutaneous diseases. It makes a cooling drink in cases of internal inflammation, producing a gentle moisture of the skin, without heating the body.

Employment.—An infusion of the plant, sweetened with honey, is used as a demulcent, refrigerant, and a gently diaphoretic drink. The flowers are sometimes applied externally as an emollient.

GENUS CAPSICUM.—Corol monopetalous, wheel-shaped; berry juiceless, 2-celled, inflated; anthers connivent; calyx angular.

NO. 37.—RED PEPPER.

Common Names.—Garden Pepper, Chillies, &c.

C. ANNUUM.—Stem herbaceous, smooth, crooked, branched; leaves elliptical, pointed;

segments of the corol plaited; pod conical, varying in shape and size; peduncles solitary.

Description.—Stem herbaceous and ramose; leaves lanceolate, entire, shining, supported by a long petiole; flowers white, small, axillary; fruit an elongated capsule, of a conic and often angular shape, shining, of a lively red, with two or three cells, containing reniform and yellowish seeds. This plant is an annual, a native of South America and both of the Indies; it will likewise ripen its fruit in the United States. All the different kinds usually found in our vegetable markets are merely varieties of this species. The true Cayenne pepper is the *C. baccatum.*

Properties.—Heating, stimulant, and stomachic.

Employment.—It may be used as a substitute for the African cayenne when that article is not at hand—its general properties being the same, but much inferior in strength. It is generally used as a topical remedy in stimulating gargles in cynanche maligna, sore throat, and as a rubefacient and counter-irritant. I was once attacked with the flatulent colic, and was cured in an hour with the infusion of this capsicum: one teaspoonful of the powder, sugar sufficient to sweeten, adding one pint of barley-water; drink the whole warm. It is good also for pain in the breast. A mild infusion is excellent for weak eyes.

NO. 38.—BIRD-PEPPER.

Common Names.—Cayenne Pepper, African Pepper, Capsicum, &c.

C. BACCATUM.—Stem smooth; peduncles in pairs.

Description.—This is a shrubby plant, with a woody, branching stem, narrow and pointed leaves, white blossoms, and small, erect seed-vessels, which are of a lightish-red color when ripe. Capsicum has been known as a remedy for several centuries, and is now extensively employed in Europe and in this country. So much has been written by late authors of botanic works on the use of capsicum, that I deem it unnecessary to speak, except very briefly, upon the subject, in this place.

Cayenne pepper contains a peculiar substance, discovered by Forchhammer, and called *Capsicin* by Dr. C. Conwell; a red coloring matter, a small quantity of a matter containing nitrogen, a mucilage, and some salts, especially nitrate of potassa. Dr. Conwell obtains, by means of ether, a liquid of a fine reddish-yellow color, which he calls ethereal oil of capsicum, and which is eminently endowed with all the stimulant and acrid properties of Cayenne pepper. But the best oil of capsicum may be obtained by expression, and in that form it possesses a most intolerable warmth and acrimony of taste, and concentrates all the stimulant properties of the pod. This oil is very useful in rheumatism. In dyspeptic states of the stomach, capsicum appears to be peculiarly adapted. Dr. Chapman thinks this article "well suited to dyspepsia, as it prevails with drunkards, or is occasioned by the atonic gout." The tincture, used externally, is remarkably efficacious in all painful affections, in rheumatism, sprains, soreness of the flesh, &c.

Properties.—Capsicum is one of the purest and strongest stimulants with which we are acquainted; also a carminative, tonic, and diuretic. It is good to remedy flatulency, arising from eating vegetable food, and likewise to warm the stomach. It is used in rheumatism, in coldness of the system, and in the torpid cases of pneumonia typhodes, as well as in the sinking typhus. In cynanche maligna (malignant sore throat), capsicum is much employed, both as a gargle and as an internal remedy. Mr. Stuart speaks very highly of its powers in this disease. He orders "two tablespoonfuls of the small red pepper, or three of the common Cayenne pepper, and two teaspoonfuls of fine salt, to be beat into paste, on which half a pint of boiling water is to be poured, and strained off when cold; an equal quantity of very sharp vinegar being added to this infusion. A tablespoonful every hour is a proper dose for an adult." Mr. Stephens gave it to four hundred patients laboring under this disease, "and it seemed," says he, "to save some whose state had been thought desperate." It is excellent, combined with opium, in diarrhœa and low cases of dysentery. When administered with opium in delirium tremens, it has very happy effects. In passive hemorrhage, capsicum is pronounced nearly a specific.

Employment.—Dose of the powder, from 6 to 12 grains, in the form of pills. Tincture of capsicum, the powder, one ounce; diluted alcohol, two pounds. Externally, tincture of capsicum, half an ounce; Cayenne pepper, one dram; diluted alcohol, one pound: useful as a rubefacient in palsy, pleurisy, rheumatism, &c.

Adulterations.—People should be very cautious of whom they purchase cayenne, for it is adulterated in a great variety of ways. Even botanic dispensers, and those who should be above suspicion, are known to mix it with one fourth Indian meal, and color it with red paint or dye-stuff. Logwood, red saunders, curcuma, ginger, salt, red lead, the bark of the sycamore, and various other barks and dye-woods, are added to it, with a view to its adulteration. The African cayenne is also mixed with the Bombay or chilly peppers, but the fraud may be readily detected by the taste and smell. The grocers and druggists seldom have a pure article, and frequently it is little better than poison.

Some of the substances used in the adulteration of cayenne may be readily detected, but others, again, elude the most rigid scrutiny. Red lead may be detected by boiling some of the suspected pepper in vinegar, filtering the solution, and adding to it the sulphate of soda: by this process, a white precipitate will be formed, which, after being dried, exposed to heat, and mixed with a little charcoal, will yield a metallic globule of lead. Those who have not an opportunity of trying this experiment, may burn some of the cayenne in a shovel, over the fire, and if a black sediment remains, red lead or some other injurious mineral may be suspected. The bright-red color of cayenne, which we sometimes observe, is generally owing to the presence of dye-wood or some kind of red paint.

GENUS CEANOTHUS.—Petals scale-like, vaulted; claws long, standing in the 5-cleft, cup-form calyx; stigmas 3; berry or capsule dry, 3-grained, 3-celled, 3-seeded, 3-parted, opening on the inner side.

NO. 39.—NEW-JERSEY TEA.

Common Names.—Red-root, Wild Snowball, Bohea, &c.

C. AMERICANA.—Leaves ovate, acuminate, serrate, 3-nerved, pubescent beneath; panicles axillary, long-peduncled, sub-corymbed.

Description.—This is an indigenous shrub, growing from two to four feet in height, bearing very small white flowers in clusters, and is found in New Jersey, Pennsylvania, New York, and the western states. The capsules are three-cornered, and remain on all winter. The stems are brown near the earth, and green toward the top—leaves dark-green. The root is large, with a red or brown epidermis, containing many small white veins; heart of the root is red. The bark of the root has the smell and taste of the peach-leaf, while the leaves, flowers, and young shoots, are without smell, and have a slight mucilaginous taste.

Properties.—The root is astringent, diuretic, tonic, expectorant, sedative, and imparts a red color to water. Given in decoction, it is esteemed a useful remedy in syphilitic complaints, gonorrhœal discharges, &c., and was used by the Indians in venereal disease, epilepsy, asthma, and consumption. It is a very useful remedy in chronic bronchitis, in all diseases of the lungs, and in dropsy of the chest. As an expectorant, it is very valuable in coughs unattended with inflammation. It is of value in dysentery, and also as a local application in aphthous affections of the mouth, and in the sore throat of scarlatina. The green leaves were employed during the revolutionary war as a substitute for tea, and their infusion somewhat resembles that article in color and taste.

Employment.—The bark of the root, the stems, leaves, and seeds, may be employed: the first in tincture, in doses of from a teaspoonful to a tablespoonful three or four times a day; and the last in decoction or strong infusion, drank cold, about a pint in the course of the day.

GENUS CELASTRUS.—Calyx 5-lobed, flat; corol spreading; capsule obtusely 3-angled, 3-celled, berry-like; valves bearing the partitions on their centres; cells 1 or 2 seeded; stamens standing around a glandular 5-toothed disk; style thick; stigma 3-cleft; seeds calyptred or arilled.

NO. 40.—BITTERSWEET.

Common Names.—False Bittersweet, Staff-vine, Fever-twig, &c.

C. SCANDENS.—Stem twining; leaves oblong, acuminate, serrate; racemes terminal.

Description.—This is a woody vine, sometimes attaining the height of thirty or forty feet. It twines around the branches of trees similar to the grape, or runs along upon hedges, fences, and rocks. The root is creeping, of a bright-orange color, several rods in length, and the stem has a brown or reddish bark, and rarely exceeds an inch in diameter. The blossoms are of a greenish-yellow color, and very fragrant; and the berries grow in clusters, and remain upon the vines all winter.

Although the *Solanum dulcumara* is the true bittersweet, the present plant is what is generally used, and popularly called *Bittersweet*, and must not be confounded with the other, which is a very different plant, not only in appearance, but in its medical properties.

Properties.—The bark of the root is detergent, tonic, and resolvent, and in decoction may be given in doses of a gill three times a day, in cutaneous diseases, liver-complaints, to purify the blood, and to increase the secretions and excretions; but I prefer giving it in combination with alteratives and detergents, to administering the article alone. The bark and berries make an excellent ointment for contracted sinews, sores, ulcers, and swellings of every description.

GENUS CEPHAELIS.—Flowers in a congested involucrate capitulum; calyx urceolate, 5-toothed; corolla infundibuliform; stigma 2-parted; fruit 2-seeded; receptacle chaffy.

NO. 41.—IPECACUANHA.

Common Names.—Ipecac, Ipecacuan, &c.

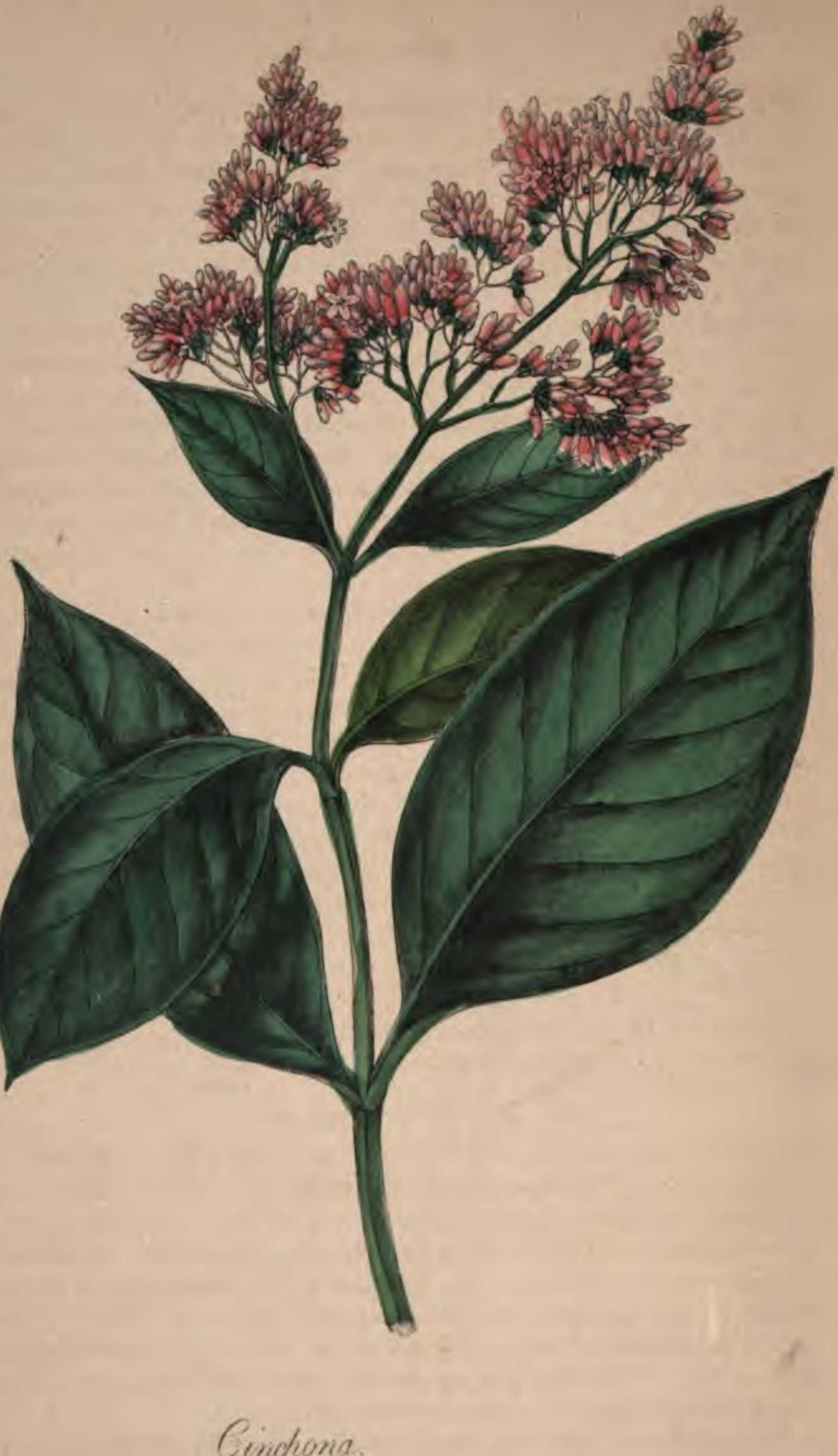
C. IPECACUANHA.—Stem ascending, somewhat shrubby, sarmentaceous; leaves obovate, lanceolate, the younger ones a little pubescent; stipules intrafoliar, many-cleft, setaceous.

Synonym.—*Callicocca ipecacuanha.*

Description.—Root or stump subterranean, horizontal, repent; stem straight, one or two feet high, simple; leaves six or eight at the top of the stem, opposite, entire, and oval; flowers white, very small, united in a capitulum looking apparently as the continuation of the stem, surrounded with a large involucrum; calyx 5-toothed; corolla infundibuliform, 5-divided; five stamina; fruit ovoid, black, and containing two small, whitish nuts.

Ipecacuanha is indigenous to South America. The root, such as is found in the shops, is from three to four inches long, compact, brittle, irregularly twisted, of the size of a goose-quill; annulated with considerable circular depressions at short intervals; of a brown color, sometimes gray or reddish; of a weak but disagreeable smell; of a bitter, acrid, and nauseous taste. These roots are composed of a cortical part, the fracture of which is brown and resinous, and of a fibrous *meditullium*, of a yellowish color, less sapid and odorous. According to Pelletier, this root is composed of *emetia*, 16; fatty matter, 1·2; resinous substance, 1·2; gum and salts, 2·4; starch, 53; matter containing nitrogen, 2·4; lignin, 12·5; and traces of gallic acid. Warm water, alcohol, and ether, take up its active principles.

Properties.—Ipecacuanha is emetic, stimulant, tonic, and diaphoretic. When administered in proper doses, it acts upon the mucous membrane of the stomach,, which is more or less violently irritated by it, producing vom-



Cinchona.

iting. In hemorrhage, ipecacuanha is sometimes an important article; many physicians of respectability bear testimony to its good effects in hemoptysis (bleeding from the lungs), though it is in uterine hemorrhage that it displays its best powers. The common mode of administering it in hemorrhage is to combine one or two grains of it with half a grain of opium or less, to be repeated at stated intervals. In dyspepsia this article has been used with good success, in such small doses as not to excite nausea, thereby acting as an alterative, changing the state of the stomach imperceptibly, till it finally restores this organ to its natural tone and action. We are informed by Dr. James, of Albany, that a pill of one or two grains, taken after dining, will generally obviate the oppression of the stomach felt after that meal.

Ipecac, in chronic dysentery and diarrhœa, is a most useful and efficient medicine in small doses. Small, nauseating doses are also advantageously given to subdue uterine and pulmonary hemorrhages, and are useful for hooping-cough, epilepsy, and amaurosis. We use also the saturated tincture in fever.

Employment.—In large doses, 30 grains is an easy and good emetic, without causing debility. In small doses of two or three grains it acts as a tonic, strengthening the digestive organs, and is useful in indigestion, and in bilious and liver-complaints. It is good also in fevers, by keeping up a determination to the surface. It may be given in powder, or formed into pills, with soap, molasses, or mucilage of gum-Arabic. We give it, in general, combined with lobelia. A wine tincture makes a good expectorant, particularly for children. Add of the root, bruised, one ounce to one part of Malaga wine: dose for a child a year old, one or two teaspoonfuls. A sirup made of it is also very good. It enters into the *Emetic* and *Diaphoretic Powders*, the *Sudorific Drops*, and *Expectorant Sirup*.

GENUS CINCHONA.—Corol funnel-form, 5-cleft; capsule inferior, 2-celled, bipartile; the valves parallel to the partitions, opening inwardly.

NO. 42.—PERUVIAN BARK.

Common Names.—Jesuits' Bark, Red-bark, Yellow-bark, Crown-bark, &c.

Description.—The trees which produce the bark vary in size. It is a very lofty tree, and sends off large branches; the leaves are oblong, three inches in length, and about one and a half inches in breadth. The flowers stand in clusters at the end of the branches, and are composed of a single tubular petal, whose border is divided into five segments. These are succeeded by capsules of an oval shape, which, when ripe, open lengthwise, showing two cells divided by a membrane; each contains a number of small, flatted seeds, surrounded with a membranous edge.

Much confusion still exists among botanists in determining the *species* of the different cinchonas found in market. The *Yellow-bark* is met with in two varieties, quilled and flat. The quills vary from nine to eighteen inches in length, from half an inch to two inches in diameter, and from one to six or seven lines in thickness. It is called yellow because it approaches more to that color than either of the others. It is internally of a light cinnamon color, friable and fibrous; has no peculiar odor different from the others, but a taste incomparably more bitter, with some degree of astringency.

The *Pale-bark*, or Crown or Loxa bark, or Quilled-bark, as it is variously called, comes in small quilled twigs, breaking close and smooth, friable between the teeth, covered with a rough coat of a brownish color, internally smooth and of a light brown; its taste is bitter, and slightly astringent; flavor slightly aromatic, with some degree of mustiness.

The *Red-bark* is in large, thick pieces, externally covered with a brown rugged coat, internally more smooth and compact, but fibrous, and of a dark-red color; taste and smell similar to that of the Pale-bark, but the taste rather stronger.

From the general analysis of bark, it appears to consist, besides the woody matter which composes the greater part of it, of gum, resin, gallic acid, of very small portions of tannin and essential oil, and of several salts, having principally lime for their basis. Seguine also supposed the existence of gelatin in it, but without sufficient proof. Cold water infused on pale-bark for some hours, acquires a bitter taste, with some share of its odor; when assisted by a moderate heat, the water takes up more of the active matter; by decoction, a fluid, deep-colored, of a bitter styptic taste, is obtained, which, when cold, deposites a precipitate of resinous matter and gallic acid. By long decoction, the virtues of the bark are nearly destroyed, owing to the oxygenation of its active matter. Magnesia enables water to dissolve a larger portion of the principles of bark, as does lime, though in an inferior degree. Alcohol is the most powerful solvent of its active matter. Brandy and other spirits and wines afford also strong solutions, in proportion to the quantity of alcohol they contain. A saturated solution of ammonia is also a powerful solvent; vinegar is less so even than water. By distillation, water is slightly impregnated with the flavor of bark. It is doubtful whether any essential oil can be obtained.

Properties.—Tonic, astringent, antiseptic, febrile, &c. Given in small doses, the Peruvian bark acts locally and simply on the stomach and intestinal canal, increases the vitality of this apparatus, stimulates the digestive functions, and renders the assimilation of the alimentary substances more rapid and perfect; but this tonic action is almost exclusively limited to the tissues with which the bark comes in contact; while, under the influence of larger doses, we perceive the manifestation of a series of general phenomena, which leaves no doubt that this action is extended to the whole economy. In fact, after the administration of a common dose, under any shape whatever, the mouth becomes dry; the stomach experiences a sensation of heat, which extends very soon to the whole abdomen; the pulse becomes more active and full; the general heat, and cutaneous perspiration, are increased; finally, a sensation of vigor more or less appreciable and permanent is experienced. Should the dose of bark be too strong, or its use too long continued, or, finally, the digestive canal or any other organ be in a state of inflammation, all the phenomena we have just mentioned become more intense, and all the symptoms of inflammation are aggravated. Uneasiness and a dry heat are felt at the epigastric region; nausea, flatulence, vomiting, or alvine evacuations, take place; a violent thirst, and an acrid and burning heat, are experienced; the pulse is hard and frequent; the temporal arteries beat violently; followed by a violent headache, bleeding at the nose, an extreme agitation, dryness of the skin, and even in some cases by delirium, sleeplessness, irregular motion, and all the signs of an irritation in the brain.

Intermittent fever is the disease for the cure of which bark was introduced into practice. It is given as early as possible, after clearing the stomach and bowels, in the dose of from one scruple to a dram every second or third hour during the interval of the paroxysm; but it becomes by far more efficacious by uniting it with other ingredients.

We must always avoid giving this remedy during the fever; for, under this circumstance, instead of lessening its intensity, it would increase and render it more obstinate. However, in remittent fevers, when the fits are separated by very short intervals, the bark may be exhibited toward the end of the exacerbation, and the dose should be then administered all at once, in order that it may act before the return of the next paroxysm.

In some forms of continued fever which are connected with debility, as in typhus, cynanche maligna, confluent small-pox, &c., it is regarded as one of the most valuable remedies. It may be prejudicial, however, in those diseases, where the brain or its membranes are inflamed, or where there is much irritation, marked by subsultus tendinum and convulsive motions of the extremities. In pure typhus it appears to be less useful in the beginning than in the convalescent stage.

An ancient writer, Buserius, states that a man took twenty-five grains of tartar-emetic (two being the dose), mixed with a large quantity of bark, which produced no effect—probably by a chemical action, which, if well understood, might cause the administration of the cinchona as the best antidote for antimony, when taken by design or otherwise.

The extract, with capsicum in pills, has proved efficacious in dropsy of the abdomen. A popular prejudice assigns to bark the objection that it produces rheumatism, stiffness of joints, and dropsical effusions. This, however, is unfounded. I consider the genuine cinchona the best anti-periodic medicine in malaria that we have. The failures that have taken place in its administration seldom or never arise from any inefficacy of the remedy, but is the result of its quality, adulteration, erroneous prescription, and therapeutical exhibition.

The alkaloid is now more generally prescribed and relied on in the treatment of intermittents, and is often beneficial (see QUININE); but for several reasons it does not always answer the intention of the prescriber so well as the bark; and I am more disposed to depend upon cinchona in pure extract for a successful treatment of such cases.

Analysis appears to have hitherto failed in its attempts to discover wherein the essential principles of the bark reside; and chemistry can as yet boast of no preparation which, combining all its active properties, can fairly claim to be received as an efficient representative of this powerful agent. The boasted efficacy of quinine might, from the very nature of the compound, have been reasonably doubted, even had success more uniformly attended its exhibition in medical practice; but its repeated failures are sufficient to abate our confidence in its virtues, and to evince the want of a still more efficient preparation.

The celebrated pharmaceutical chemist, Mr. Batterley, of London, has devoted much attention to this subject; and when there, I was pleased to obtain a formula of his "*Liquor Cinchonæ Cordifoliæ*," a preparation in which is concentrated most of the essential properties, with even the aroma of the bark. It has received the commendation of some of the highest medical authorities there.

There are several preparations, the result of recent chemical experiments, which, containing in a concentrated form more of the important qualities of the cinchona than the sulphate, deserve the attention of the practitioner, among which are—1. The hydro-alcoholic extract. 2. The compound fluid extract. 3. The saturated tincture. Still the powder would in all cases be preferable did it not contain so much ligneous matter as to cause the stomach to often reject it. We would refer our readers to our articles on INTERMITTENT FEVER and the department of PHARMACY.

Employment.—The powder, as a tonic, from 10 grains to half an ounce; as a febrifuge, from a scruple to a dram, every second or third hour, in wine; but it should never be given without proper evacuants. It is also exhibited in the form of extract. It is the basis of our *Vegetable Wine Bitters*, which we have found almost a specific in every species of intermittent fever.

Adulterations.—The substitution of the inferior cinchonas, the admixture of bark which has been exhausted by successive macerations, and the substitution of the so-called spurious or false cinchonas. The powder is often adulterated with red-saunders wood, which may be detected by agitating the suspected specimen with oil of turpentine or sulphuric ether: if adulterated, it will communicate a saffron color to the liquid; the pure bark having no effect.

Some chemists extract the quinine from the bark, and afterward make an extract, which is a deceptive, base adulteration.

GENUS CONVOLVULUS.—Corol monopetalous, funnel-form, plaited; calyx 5-parted; stigmas 2; capsule 2 or 3 celled; cells 2-seeded, covered by a lid.

NO. 43.—BINDWEED.

Common Names.—Man-root, Man-in-the-ground, Wild Scammony, Wild Potato, Wild Rhubarb, &c.

C. PANDURATUS (Michaux).—Twining, pubescent; leaves broad-cordate, entire or lobed, guitar-form; peduncles long; flowers fascicled; calyx glabrous, awnless; corol tubular, bell-form.

Description.—This is an indigenous plant, growing all over the United States, in loose, sandy soils. The vine is trailing, running along the ground like the grape, and set with large triangular leaves. The flowers are funnel-form, large and white, with a purple tinge. The root sometimes grows as large as a person's leg, milky inside, running deep into the earth, and often branched below.

Properties.—The root is cathartic, diuretic, tonic, and pectoral, and in its action resembles the jalap and scammony. When collected and dried, it should be sliced. It is a celebrated Indian remedy.

Employment.—The powdered root or extract is employed in dyspepsia, costiveness, liver-complaints, gravel, dropsy, &c. An extract of the fresh root is the most efficient in administration in doses of from 10 to 12 grains, but may be taken in substance or decoction. As a diuretic it is useful in gravel, strangury, dropsy, &c.; and as a pectoral it is beneficial in consumptive coughs, asthma, and hooping-cough, made into sirup with balm of Gilead buds and skunk-cabbage.

NO. 44.—SCAMMONY.

C. SCAMMONIA.—Leaves sagittate, truncate behind; peduncles round, 2 or 3 flowered; flowers yellow.

Description.—The root is thick and large, like bryony, black on the surface and white within, and it is full of an acrid, milky juice; from this arises the stalk, weak and trailing, three or four feet high, and beset with triangular leaves, like those of the common field bindweed. The flowers grow from the axilla of these, are large, bell-shaped, and whitish, with purplish or yellowish tinge. The seed-vessel is of a pointed form, and the seeds themselves angular and blackish. It is a climbing, perennial plant, which grows in Syria, Mysia, and Cappadocia.

The substance imported and found in the shops, called *Scammony*, is the inspissated juice of the above plant, and is procured as follows: the earth having been cleared away, the top of the root is sliced off obliquely about two inches below where the stems spring from it; as the juice flows out, it is received in shells and exposed to the air until it thickens. Each root yields about two drams.

Virgin Scammony is in amorphous masses, weighing from two to eight ounces each, very porous, friable, and of an ash color externally; its fracture is concboidal, very resinous, porous, and of a dark-green color; the odor strong, peculiar, resembling that of old cheese, heightened by being breathed upon; taste acrid and nauseous; specific gravity, 1·210. This variety is scarce, and when met with, bears a very high price. Scammony, as it commonly occurs, is an impure article, usually imported in boxes or drums, seldom in cakes; it is heavier than the pure, more compact, and of a pale ash-gray color; its fracture earthy, dull, not porous, and of a gray-black color; its odor and taste similar to the pure; specific gravity from 1·276 to 1·443.

Properties.—The active principle is in the resin, which will vary in specimens according to its purity. I have known it to produce only from twenty-eight to thirty per cent. The virgin scammony will contain from eighty-one to eighty-three per cent. of resin. It may readily be obtained by treating scammony with sulphuric ether and evaporating to dryness. This is soluble in alcohol, ether, and oil of turpentine, and forms with unskimmed milk a fine uniform emulsion. By the latter characteristic, and also by its solubility in oil of turpentine, it is distinguished from the resin of jalap. No drug is more generally and more uniformly adulterated than scammony; it is very difficult to meet with it in a pure state.

Scammony, when pure or nearly so, is an efficacious and strong purgative. Some practitioners condemn it as unsafe. Where the intestines are loaded with an excessive burden of mucus, the scammony is apt to pass through without exerting itself; but where there is a deficiency of the natural mucus, this article may irritate and inflame the intestines.

Employment.—The common dose of scammony is from 3 to 12 grains, but we seldom administer it alone, it is so drastic in its nature and effects; but it enters into the *Anti-dyspeptic Pill* of our pharmacopœia.

GENUS DATURA.—Corol monopetalous, funnel-form, plaited; calyx tubular, angular, deciduous, with a permanent orbicular base; capsule superior, 2-celled, 4-valved, each cell partly divided, many-seeded.

NO. 45.—THORN-APPLE.

Common Names.—Stramonium, Stink-weed, Jamestown-weed, Jimson-weed, Apple-peru, &c.

D. STRAMONIUM.—Pericarps spinous, erect, ovate; leaves glabrous, ovate, sinuate-angular.

Description.—Root annual, white, crooked; stem erect, from one to eight feet in height, branched by forks, or dichotome, cylindrical, often hollow, smooth, or pubescent; leaves alternate at the forks, petiolate, oval, or oval-oblong; base decurrent, and acute, margin almost angular by large, unequal, acute teeth. Flowers axillary, solitary, on short peduncles, erect or sometimes nodding, large, white, or bluish. Calyx monophyle, tubular, with five angles, and teeth deciduous, but leaving a rim at the base. Corolla twice as long, monopetalous; base tubular, subangular limb, with 5-angle plaits and teeth; the last are acuminate; stamina five; filaments coherent with the persistent rim of the calyx, oval, hairy, one style; filiform as long as the stamina; one stigma. Fruit, a large fleshy capsule, ovate, thorny, with four valves opening at the top inside, with four cells, many black seeds filling the cells, and attached to a central receptacle in each cell.

This plant blossoms from May to September in the southern states, and from July to October in the northern, bearing blossoms when the seeds of the first flowers are ripe. It is killed by the frost with us; but in warmer climates it becomes a semi-biennial plant. It is one of those wandering plants common to all parts of the world, spreading with the utmost facility, and is probably a native of Persia and India, but has spread through Europe, Africa, and America. It was once thought to be a native of North America, but it has spread in it only since its colonization by the whites, and is called by the Indians "white people's plant." It is most commonly met with in old fields, along roads and old houses, &c.; never in woods and mountains. Its smell is virose and nauseous, and its taste acrid and bitter.

Properties.—Narcotic, acrid, discutient, antiphlogistic, &c. Its active principle is a peculiar alkaloid, discovered by Brande, and named *Daturia*, but this has since been proved to be identical with *Atropia.* The herb and seeds yield their virtues to water and to alcohol; but their activity is much impaired by long boiling. It is a strong poison, acting upon the animal economy in a powerful manner, resembling the action of belladonna. It has been given in the form of extract and powder in epilepsy, mania, and other nervous disorders. I have given it in other diseases, both internally and externally, with success. Dr. Ives, of New Haven, says that he has seen beneficial effects arise from the use of this article in epilepsy; but as far as my experience goes, it is designed more for an external than an internal medicine. When poisoned with stramonium, make use of the same treatment as in being poisoned with belladonna.

Employment.—Internally, from one to twenty grains of the leaves or seeds are usually given gradually; externally, in form of an ointment, as directed under the head of PHARMACY. I have used a tincture, made from the seeds, with success, in asthma and epilepsy. Twenty or thirty drops may be given three or four times a day. One grain of the extract given daily in epidemics has been highly extolled. Smoking of the leaves, mixed with tobacco, is a popular remedy for asthma; but even in this way it should be used with caution, and its effects carefully noticed.

The ointment is excellent for piles and burns, and one man cured himself of the piles by rubbing the parts, after each evacuation, with the green leaves in summer. A tincture of the seeds, in one instance that came to my knowledge, effected the radical cure of a most miserable drunkard; the operation was severe, perhaps dangerous, but it completely eradicated the predisposition for stimulants.

Incompatibles.—The mineral acids, caustic alkalies, and the salts of iron, lead, mercury, and silver.

GENUS DIERVILLA.—Calyx oblong, 5-cleft, with 2 bracts; corol 5-cleft, twice as long as the calyx, funnel-form; border 5-cleft, spreading; stigma capitate; capsule oblong, 4-celled, naked, many-seeded.

NO. 46.—BUSH HONEYSUCKLE.

Common Names.—Gravel-weed, &c.

D. CANADENSIS.—Peduncles axillary or terminal, dichotomous, 3-flowered; leaves ovate, serrate, acuminate.

Description.—This plant is very common almost all over the northern states, growing by the sides of fences and rocks, from one to four feet high, with a pithy stem, bearing a yellow flower, which makes its appearance in June.

Properties.—A cooling diuretic and refrigerant. When applied to the inflamed surface occasioned by the poison of *rhus* or ivy, it gives the sensation of a current of cool air upon the part, and after a few applications relieves the itching, and checks the inflammation and swelling. It is a useful remedy in inflammation of the bladder, with gravelly deposites in the urine, and has been resorted to with success in many cases of sub-inflammation of the kidneys and urinary passages.

Employment.—A cold infusion of the leaves and twigs, to be drunk freely as a common drink.

GENUS DIOSMA.—Calyx 5-cleft or 5-parted; disk lining the bottom of the calyx, generally with a short, scarcely prominent rim; petals 5, with short claws; filaments 10; the 5 opposite the petals sterile, petaloid; the other 5 longer, subulate; style as long as the petals; stigma minute, 5-lobed; fruit composed of 5 cocci, covered with glandular dots at the back.

NO. 47.—BUCHU.

D. CRENATA.—Leaves opposite, ovate or obovate, acute, serrated and glandular at the edge, coriaceous and full of small pellucid dots on the under surface; corol white or reddish, solitary.

Description.—This is a slender shrub, with smooth and somewhat angular branches, of a purplish color; a native of the vicinity of the cape of Good Hope. The buchu-leaves of the shops are about an inch in length, elliptical, very finely notched, smooth, and of a green color on the upper surface, pale and dotted beneath. Water and alcohol extract their virtues.

Properties.—Stimulant, diuretic, and diaphoretic, having a peculiar tendency to the urinary organs, producing diuresis, and exciting diaphoresis under favorable circumstances. A knowledge of their virtues was derived from the Hottentots, and they are now employed to a great extent all over Europe. They are chiefly given in urinary complaints, gravel, chronic catarrh of the bladder, and are beneficial in all affections of the urinary organs. They have also been recommended in dyspepsia, chronic rheumatism, and cutaneous affections.

Employment.—From 20 to 30 grains of the powder may be given two or three times a day. In infusion, one ounce to a pint of boiling water; the dose is from one to two fluid ounces. A tincture is sometimes used as a stimulunt embrocation in local pains. It enters into the *Compound Diuretic Fluid* of our pharmacopœia.

GENUS ERYTHRŒA.—Capsule 2-celled; corolla salver-shaped; anthers becoming spiral; stigma 2-lobed.

NO. 48.—EUROPEAN CENTAURY.

Common Names.—Lesser Centaury, &c.

E. CENTAURIUM.—Stem nearly simple; panicle forked, corymbose; leaves ovate-lanceolate; calyx half the length of the tube, its segments partly combined by a membrane.

Synonym.—*Centaurium minus.*

Description.—This elegant annual grows all over Europe in dry pastures and woods. It has a small, woody, fibrous root, and grows to the height of ten or twelve inches. The stem is slender, erect, angular, leafy, and sometimes branched at the upper part. The base-leaves grow close to the stalk in pairs. The flowers open in the daytime and shut at night, and are of a beautiful pale-red color.

Properties.—This is a useful stomachic, tonic, and antiseptic, and is given with advantage in dyspeptic complaints. It closely resembles the gentian in its therapeutical properties, and is perhaps in some instances preferable. It is, however, superseded in this country by our own centaury, the *Sabbatia angularis*, which is a complete substitute for the European.

Employment.—The flowering tops are principally used. They are intensely bitter, and yield their active powers to both water and alcohol. A dose of the powder is from 30 grains to a dram; of the extract, 5 grains to a scruple; of the infusion, a wineglass three or four times a day.

GENUS EUONYMUS.—Calyx 5-parted or 5-cleft, flat; corol flat, inserted on the outer margin of a glandular disk; capsule 5-angled, 5-celled, 5-valved, colored; cells 2-lobed; seeds calyptred or arilled.

NO. 49.—SPINDLE-BUSH.

Common Names.—Spindle-Tree, Indian Arrow-wood, &c.

E. ATROPURPUREUS.—Leaves petioled; lance oblong, acuminate, serrate; peduncles divaricate, many-flowered; flowers 4-cleft; fruit smooth, red.

Description.—A shrub, indigenous to many sections of the United States, growing from four to seven feet in height. The leaves are frequently three or four inches in length. It blossoms in June, throwing out clusters of deep-purple flowers. The fruit is also in clusters, of a bright-red color, about the size of a cherry, which remain on the shrub nearly all winter.

Properties.—Expectorant, diaphoretic, and laxative. It is beneficially used in diseases of the chest and lungs, in asthma, chronic inflammation of the bronchia, incipient consumption, and in all affections of the pulmonary organs attended with cough and deficient expectoration.

Employment.—The bark of the root in the form of strong decoction is used, taken freely as the stomach will bear, or just sufficient to maintain moderate perspiration; or, if desired, it may be given in sufficient quantities to act upon the bowels. A sirup is the most eligible form in which to administer it to children—made by boiling half a pound of the bark of the root in a gallon of water down to a quart; strain, and add two pounds of refined sugar. Of this, the dose for an adult is from half to a wineglassful three or four times a day; children in proportion to the age.

GENUS HYOSCYAMUS—Corolla funnel-shaped, obtuse; stamina inclined; capsule operculate, belocular.

NO. 50.—HENBANE.

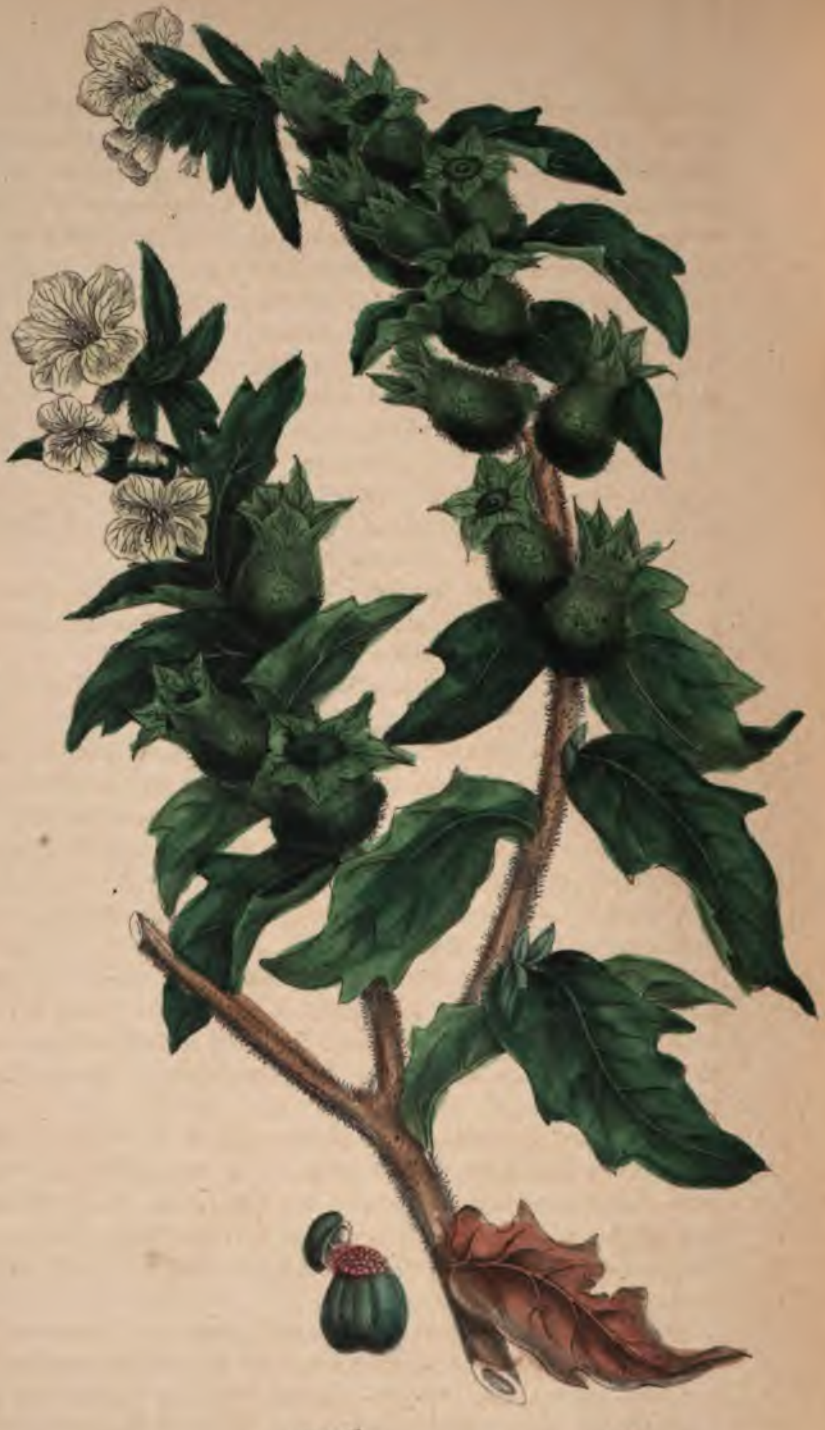
Common Names.—Black Henbane, Fetid Nightshade, Poison Tobacco, &c.

H. NIGER.—Leaves embracing the stem, waving; flowers sessile.

Description.—This plant rises from one to two feet in height; the leaves are large, cut into irregular lobes, or pointed segments, of a glauceous color, undulated, woolly, and embrace the stems; the flowers are funnel-shaped, the tube short, the border expanded and cut into five obtuse segments; the color is dingy yellow, with bright purple streaks, which is the livery of poisonous herbs, purple with yellow being the characteristic; the calyx is also divided into five short-pointed, downy segments. This is a biennial plant, native of Europe, and is cultivated largely there, and to some extent in this country, for medicinal purposes. It flowers in July. The color of this plant, when fresh, is of a dull-green; its odor is fetid and nauseous, and its taste sweetish, and afterward slightly acrid. Henbane contains fixed oil, with resin, mucilage, extractive with sugar, malic acid, and some salts. The active principle of this plant recent experiments seem to prove to be identical with that of belladonna and stramonium.

Properties.—The henbane is a strong narcotic, very poisonous, and often proves fatal when taken by mistake. The symptoms produced by an overdose are great thirst, giddiness of the head, dimness of sight, ravings, convulsions, risus sardonicus, coma, &c. The antidotes to counteract this medicine consist in first giving a teaspoonful of the flour of mustard, to produce vomiting; if this does not succeed, administer large quantities of diluent drinks, with a small quantity of vinegar and water, and follow this up by giving a dose of sweet-oil, and the use of external stimulants, or the treatment recommended under the head of BELLADONNA.

Dr. B. S. Heath, an authority entitled to respect, read a very interesting paper before the National Eclectic Medical Convention of 1848, upon the therapeutical properties of this plant, the substance of which we extract from "The Western Medical Reformer:"—



Hyoscyamus Niger.

50

"He had been prejudiced by his early medical education against the use of all narcotics, but had adopted eclectic principles, and found that narrow, proscriptive theories were not adapted to medical practice. He mentioned seven cases: 1. A Thomsonian practitioner, suffering severely from asthma, who could not be relieved by all the resources of Thomsonianism, but was relieved in ten minutes by the extract of hyoscyamus. 2. A case of pleurisy, with violent pain and difficulty of breathing, completely relieved in two hours by the above extract and hot fomentations. 3. A severe attack of pleurisy, with pungent pain, in a farmer aged fifty, relieved and cured by the same medicine. 4. A case of severe pain, irritation, and restless wakefulness, in a lady two weeks after confinement, relieved in three hours by doses of half a grain once an hour. 5. A case of violent pains and muscular spasms, which had resisted all other means, was frequently relieved by hyoscyamus in from thirty to sixty minutes. 6. In a similar case of sleeplessness for seven days and nights, the hyoscyamus gave relief. 7. In several severe cases of after-pains it was very successful. Dr. Heath dissolves twenty grains of the extract in four ounces of water, and gives one or two teaspoonfuls every ten or fifteen minutes, discontinuing it as soon as the pain abates. This he uses in all cases accompanied by pain, either inflammatory or spasmodic."

Employment.—Applied externally, in the form of poultice and fomentation, it is useful in all cases of painful and obstinate inflammations, such as fistulas, boils, swellings of the breast, scrofulous ulcers, indolent tumors, inflamed eyes, and cramps in the bowels. In deep-seated inflammation of the kidneys, bowels, testicles, &c., this poultice is very useful, seldom failing of producing beneficial results; and for many painful affections a better application can scarcely be found.

Given in the form of tincture or extract, it will sometimes allay irritation where opium can not be administered. It may be given in tic-doloreux, tetanus, and other painful nervous affections; also in epilepsy, &c. I have known a severe case of asthma of long standing cured by smoking the leaves like tobacco.

In very severe pains, a small teaspoonful of the tincture may be given. Externally, a poultice may be made of the leaves, by simmering them in water, and then adding the slippery-elm bark. The extract, in doses of from one to two grains, gradually increasing; of the leaves, the same as the extract. I have found that the leaf simmered in spirits would afford relief in some severe cases of ophthalmia.

The extract is an excellent substitute for opium, as it never produces sickness when properly administered; neither does it close the secretions, nor produce constipation. On this account it should be preferred to that drug, and will probably eventually supersede it in all that class of compounds upon which we depend to produce and maintain diaphoresis, as well as in most of the nervous affections. The inspissated extract is what I recommend, having but little confidence in that made by heat in the ordinary way. It enters into our *Nervous* and *Cough Pills*. An aqueous solution of the extract (twenty grains in four ounces of warm water), in doses of one or two teaspoonfuls, according to age and violence of the pain or paroxysm, has been found eminently useful in asthma, pleurisy, after-pains, and in great nervous irritation; the doses repeated once in thirty or sixty minutes, and discontinued on the first indication of an abatement of the symptoms, as its effects continue to increase for some time.

Incompatibles.—Vegetable acids, nitrate of silver, and acetate of lead. It is said that lemon-juice in large quantities has proved a complete antidote to the poison of henbane.

GENUS IPOMEA.—Calyx 5-cleft, naked; corol funnel or bell form, with 5 folds; stigma globe-headed, papillose; capsule 2 or 3 celled, many-seeded.

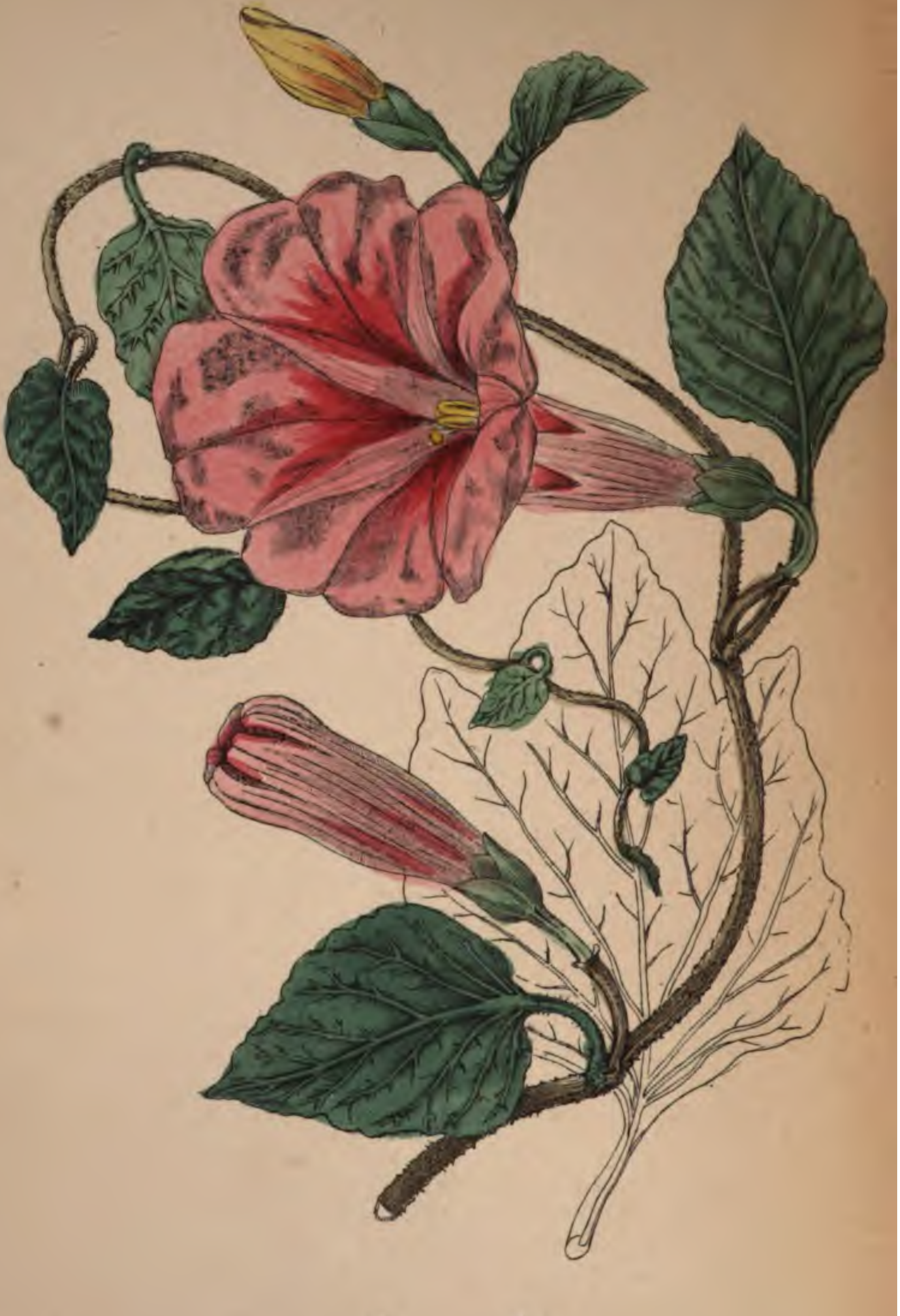
NO. 51.—JALAP.

Common Names.—American Jalap, &c.

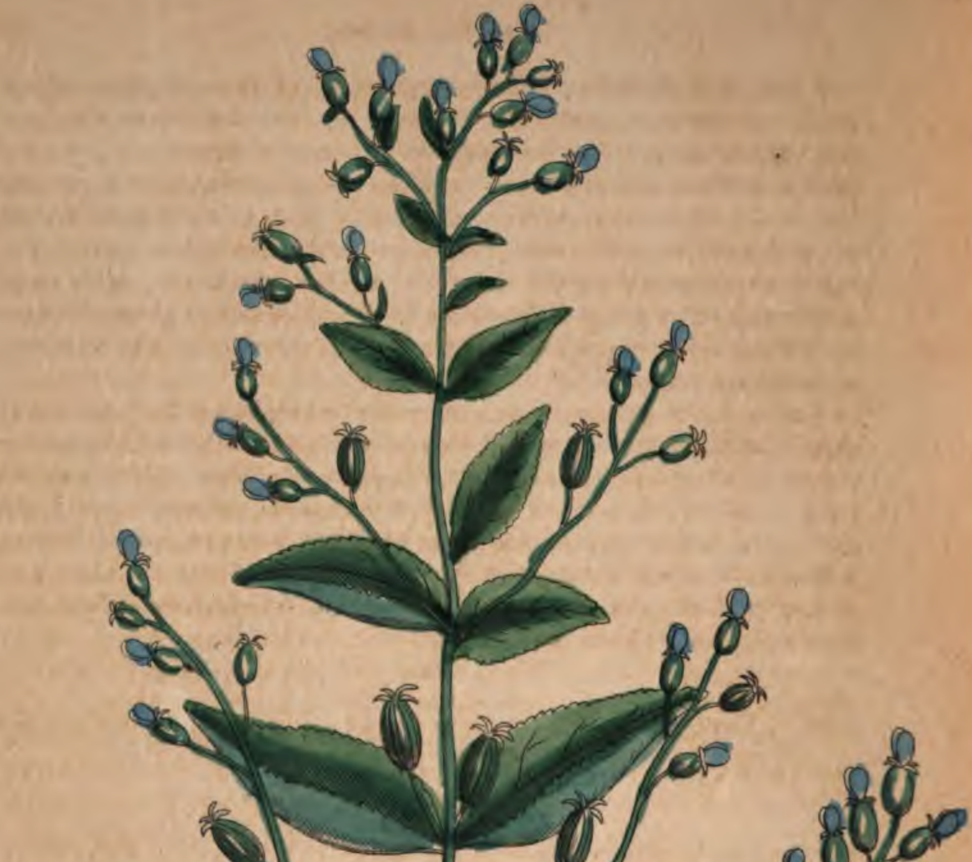
I. JALAPA.—Stem triangular, twining; leaves ovate, subcordate, obtuse, obscurely repand, villous beneath; peduncles 1-flowered; seeds downy.

Description.—This plant has thick, fleshy, radish-like roots, full of a milky juice; stalks numerous, twining for support, and rising about ten or twelve feet; the leaves vary, being heart-shaped, angular, oblong or pointed, smooth, and stand alternately upon long foot-stalks; the flowers are usually two, bell-shaped, plicate, of a whitish color on the outside, and of a dark purple within. The calyx is composed of five small oval leaves; each flower terminates in a wrinkled, roundish, pentagonal, umbilical fruit, about the size of a peppercorn, including a white kernel. Jalap is a plant indigenous to Mexico, and thence brought to us. I have had this plant growing in my garden, but our climate is rather too cold to cultivate it. It is one of the most valuable produced in America. It is brought to us in transverse slices or pyriform shape; these are compact, solid, and heavy, rugose and blackish externally, and of a grayish color internally. When powdered, it has a peculiar and somewhat nauseous odor, and a slightly acrid, sweetish taste. It contains a large portion of resin, upon which its cathartic property appears to depend. It contains likewise a gum, which, although almost wholly destitute of laxative properties, is active as a diuretic; and some extractive matter, with fecula and salts.

Properties.—The root of this plant is a brisk cathartic, acting in a remarkably efficacious manner, without griping, upon the whole alimentary canal, but principally on the small intestines, increasing the peristaltic action, and promoting the secretions and exhalations without causing irritation, and consequently is very proper in bilious and dropsical complaints, and may be beneficially administered to children. It will produce purging if applied to a wound, or to the surface where the cuticle has been removed.



Ipomea Jalapa



Lobelia Inflata.

Employment.—The pulverized root, in doses of 10 to 30 grains, acts as a safe and efficacious cathartic. It enters into the *Anti-bilious Physic* of our pharmacopœia; also the *Compound Tincture of Senna.* It possesses great anti-bilious and detergent properties. Jalap and cream of tartar have long been used in dropsical cases: 25 grains of jalap, united with from 40 to 60 grains of cream of tartar, form a powerful cathartic and hydragogue, called the compound powder of jalap, which has done much good in dropsical cases. Ten grains of jalap, combined with one dram of cream of tartar, form an excellent preparation where long-continued purging is necessary, as in dropsy, &c.

The extract and tincture retain the active principles of the root. Some care is necessary in the administration of this agent, either in substance or otherwise, as over-doses produce very unpleasant effects. I have used the resin or *Jalapine* in doses of from one to two grains, pulverized and mixed with sugar. Great care must be taken that this root be procured genuine, as it is often found old and adulterated. The jalap, combined with other purgatives, has been proved eminently useful in typhus, cynanche maligna, marasmus, chorea, and tetanus.

GENUS LOBELIA.—Calyx 5-cleft; corol irregular, often irregularly slitted; anthers cohering and somewhat curved; stigma 2-lobed; capsule 2 or 3 celled.

NO. 52.—LOBELIA.

Common Names.—Emetic Herb, Indian Tobacco, Wild Tobacco, Puke-weed, Asthma-weed, &c.

L. INFLATA.—Erect, branching, very hirsute; leaves ovate, serrate; racemes leafy; capsules inflated.

Description.—This is a biennial plant, one or two feet in height; stem erect, ramose, flexuose, sub-angular, hirsute; leaves alternate, oval, or oblong, acute, sessile or semi-amplexicaule, serrate or toothed, pubescent; racemes of flowers terminal, erect, foliose; flowers remote, each nearly sessile and axillary to a smaller bract, somewhat similar to the leaves but smaller, the upper ones smallest; lower flowers pedunculated; ovary swelled, oval, globose; calk with five unequal sublate divisions; corolla small, blue; capsule crowned by the calyx, swelled, striated, 2-celled, full of very small seeds. This plant blossoms from June to November. The flowers are very small, but singular; when broken, a milky, acrid juice is emitted. It is biennial, throwing out, the first year, only a few radical, roundish leaves, and is indigenous to America, growing all over the United States, in fields, woods, &c. The leaves and capsules are very acrid; taste resembling tobacco, and when chewed they produce a copious flow of saliva, sickness at the stomach, and giddiness.

Lobelia is a very valuable plant, containing many active medicinal properties. It was first used by the aborigines of this country as an emetic, but we are indebted more especially to Dr. Samuel Thomson for bringing it into use. It constitutes the basis of his practice for diseases generally; but this indiscriminate use of the plant is very objectionable. It is, like every other article, good and proper when used in its place: it is designed only to fulfil certain indications, which the practitioner should bear in mind.

Properties.—It is emetic and peculiarly stimulating, and from its action upon the great sympathetic nerve, its effect is felt throughout the whole system. It exerts a peculiar action upon the trachea and bronchial vessels, almost instantaneously expelling any collection of mucus that may have occurred in them. Hence it is exceedingly valuable in asthma, croup, hooping-cough, and in pulmonary diseases generally.

Lobelia contains an oil, similar to that of tobacco, which is destructive to health and life, even in very small quantities; also an alkaloid called *Lobeline*, possessing similar properties. A chemist in Cincinnati has obtained a concentrated preparation so strong, that a very small quantity has proved fatal to animals. It acts on the system similarly to common tobacco, to which class it belongs, and, like that plant, it is considerably narcotic. In large doses it causes great relaxation and prostration, called by Thomson "the alarming symptoms," in which it manifestly affects the brain and nervous system, producing coma and sometimes delirium. I once gave it to a lady of delicate constitution, and the effects became apparently so dangerous, that we were obliged to watch the patient till midnight, and a proposition was made to send for another physician. Yet the patient rallied and was much better the next day.

A Thomsonian informed me, although an advocate for the plant, that he had known it prove fatal in two instances. Therefore, from its active properties, it is necessary to give it with care and judgment. Indeed, I never administer it as an emetic uncombined with other modifying ingredients. The fact is, every agent given into the system, inducing active emesis, which the stomach rejects, acts as an irritant or poison, and is thrown off; and the beneficial effects depend upon this very principle. The fact that lobelia is possessed of such great power, renders it so efficacious and valuable in many diseases.

From its extensive influence over the animal economy, particularly the stomach and liver, it is found very effectual in exciting a healthy action in many chronic diseases, such as dyspepsia, affections of the liver, &c. It is also an excellent emetic where poisonous substances have been taken into the stomach; but there is no disease in which it displays such a remarkable effect as in asthma. In paroxysms of the complaint, where the patient is nearly suffocated, it will give relief instantaneously. It is equally valuable in the pneumonia of infants, affording immediate relief where the child seems to be suffocated by mucus or phlegm. It is also very useful as an expectorant in consumption. In some of those complaints I have been called when the case appeared hopeless, but the exhibition of this article has produced the happiest effects. When large doses have been given, it causes much debility, shortness of breath, with some degree of stupor or lethargy, and usually proves somewhat laxative. Of late, many physicians in Europe have used it with success in asthma. It was there introduced by Dr. Elliotson, who had previously used it in spasmodic asthma; and was employed in St. Thomas's hospital (England), in various cases of difficult breathing, with eminent success.

"It is now fourteen years," says the late Dr. E. Smith, of Boston, "since my first acquaintance with this herb, as an emetic, in my family; and about six years since I took it to relieve in sickness, and nearly five years since I administered it to others. Though one of the most useful herbs on earth with others, it is not so alone, as it does not possess all needful properties to restore health to the sick man. It is quick in its operations, but if some other medicine is not added to assist, it soon exhausts itself and is done. I have found it, with other medicines, an infallible cure in all cases, excepting such as are beyond all cure. I have given it to patients of all ages, from two days old to men of eighty-two, with safety and success. I have given it to females in all cases peculiar to them, and have never known it to fail in curable cases. There are two states in which it will not operate: one is, when the person is dying—here it will not act; the other case is, when all disease is removed—it will not make a well man sick. When a man is so sick as to be past cure, this emetic will relieve him, and cause him to live longer and easier than without, excepting in mortification. It is said by some that if it does not operate, it is immediate death; but this can not be proved by any one."

At this day, all the qualities of lobelia are too well known by the more intelligent physicians of this country and Europe to admit a single question of its usefulness as an article of the materia medica.

Employment.—The leaves, seeds, and inflated capsules, may be given in the form of powders and tincture. The dose of the powder, about a dram, or a small teaspoonful; of the tincture, the dose is about half an ounce, or a tablespoonful.

I have never known until lately the great virtues of lobelia in external employment. I have used it with decided benefit in many diseases, as herpetic affections, or tetter, in the form of tincture; also in erysipelas, piles, inflammation, ulcers, swellings, &c. The tincture is made by adding four ounces of the powdered plant to one gallon of cider-brandy or whisky. Lobelia also forms a most valuable poultice for inflammation of all kinds: take equal parts of lobelia and ulmus fulva, and stir in sufficient whisky or cider-spirits to form a poultice. In some cases powdered ginger has been added to the poultice with good effect. I received a letter a few weeks since from a botanic physician who highly extols the use of lobelia as an external remedy.

In surgical cases, to produce a relaxation of the system, the simple powder or tincture is sufficient. Obstinate strangulated hernia, which had resis every other means, has been repeatedly reduced by its aid, when given in this way, either as an emetic or injection. It enters into the *Emetic Powders*, *Expectorant Tincture* or *Sirup*, &c., of our pharmacopœia.

NO. 53.—BLUE CARDINAL-FLOWER.

L. SIPHILITICA.—Erect, simple, hirsute, with short hairs; leaves lance-ovate, sub-serrate; raceme leafy; calyx hirsute, with reflexed sinuses.

Description.—This is a beautiful plant, and grows in damp places, in moist meadows, and around brooks and springs. It rises from eighteen to twenty inches in height, and bears blue flowers, long, single, numerous, and spiked. The plant yields a milky juice, has a rank odor, and the root consists of white fibres, resembling the tobacco in taste, and is apt to excite vomiting.

Properties.—Deobstruent, diuretic, cathartic, herpetic, and sudorific. The aborigines made much use of it for the cure of the venereal disease, and it is said with great success. In gonorrhœa it may probably be serviceable, and as a diuretic in dropsy we are assured of its usefulness. Dr. Barton says it generally disagrees with the stomach, and seldom fails of affecting the bowels as a strong cathartic.

Employment.—The root is generally used in decoction. The dose of the extract in dropsy is from 5 to 20 grains.

GENUS MENYANTHES.—Calyx 5-parted; corol hairy, funnel-form, 5-lobed, equal, and spreading; capsule ovate, 1-celled, 2-valved, with seeds attached to the valves; stigma 2-cleft, capitate.

NO. 54.—BUCKBEAN.

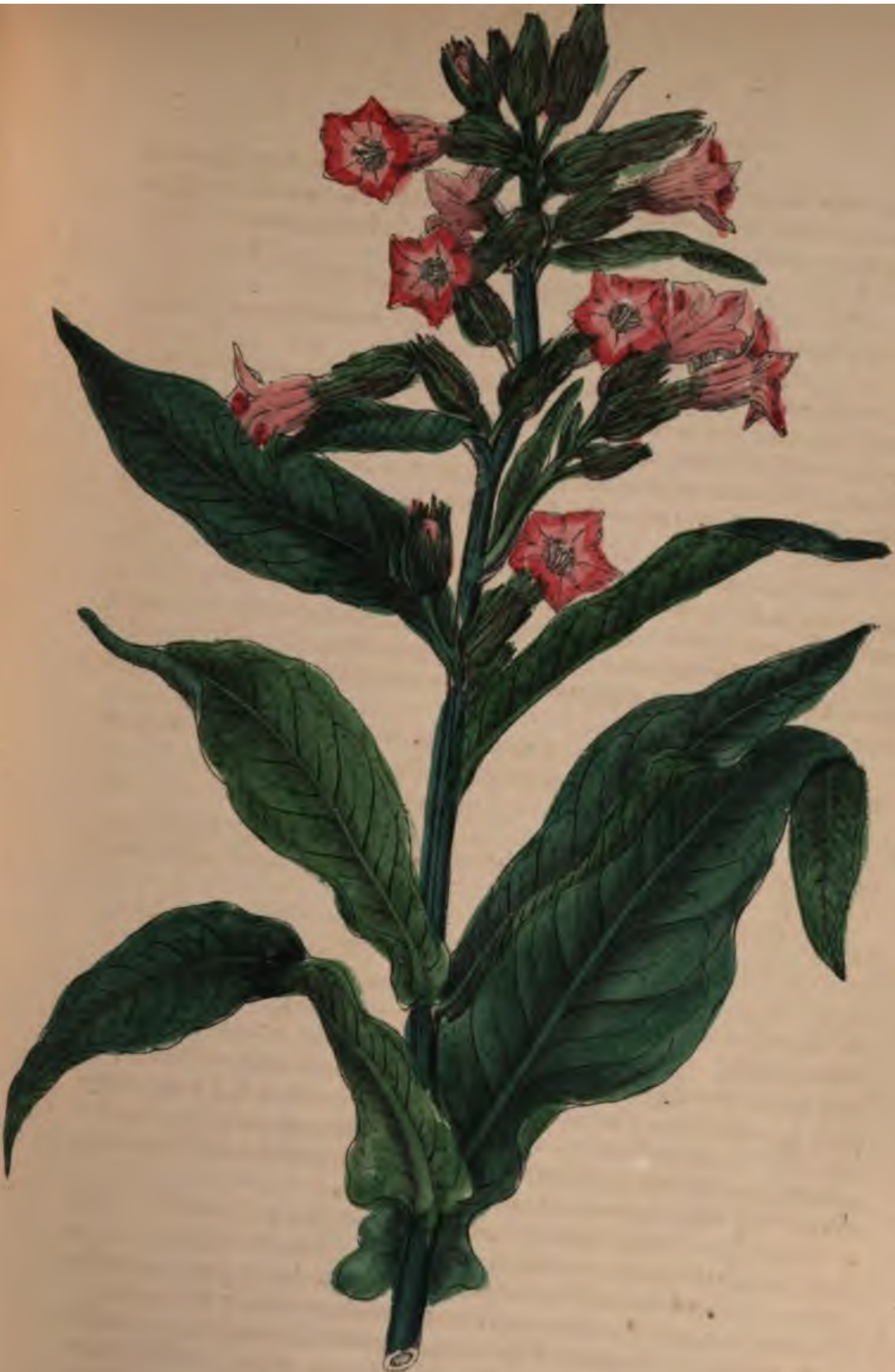
Common Names.—Bitterworm, Marsh-Trefoil, Water-Shamrock, &c.

M. TRIFOLIATA.—Leaves ternate; corols densely bearded above.

Description.—This is an indigenous plant, growing in swamps and stagnant waters all over the country. It possesses a bitter taste, and contains a bitter extractive, green coloring matter, albumen, starch, and a trace of tannic acid. It grows from six to twelve inches high, and bears a compound raceme of many white flowers, tipped externally with red, and beautifully fringed with white filaments within.

Properties.—Tonic, cathartic, bitter, diuretic, and anthelmintic. As a tonic, it may be used as a substitute for gentian. The whole plant, and particularly the root, has an intensely bitter taste; soluble in water and spirit. The root is resinous, and impregnates alcohol more strongly than water.

Employment.—The dose of the leaves in powder is from 10 grains to half a dram. The infusion, however, is preferable (one ounce of dried leaves to a pint of boiling water), of which from one to two ounces is the dose two or three times a day. It is good in scurvy, hypochondria, rheumatism, ague and herpetic diseases.



Nicotiana Tabacum

55

Incompatibles.—The sesqui-salts of iron, nitrate of silver, and acetate of lead.

GENUS NICOTIANA.—Corol funnel-form, with a plaited border; stamina inclined; capsule 2-valved, 2-celled.

NO. 55.—TOBACCO.

N. TABACUM.—Leaves lance-ovate, sessile, decurrent; flowers acute.

Description.—Stem straight, ramose, and viscous, from two to three feet high; leaves alternate, pubescent, very large, oval, sessile; flowers in panicles at the extremity of the branches, large; calyx urceolate; corolla infundibuliform, regular; five stamina; ovary ovoid, with two polyspermous cells; fruit an ovoid, and bivalve capsule.

This plant is a native of America, but is cultivated in most parts of the world. It flourishes best in the southern states and the West Indies. The tobacco-leaves, in their green state, have a virose smell, and an acrid and aromatic taste. Such as they are found in commerce, they are dry, and have experienced a beginning of fermentation, which to a certain degree changes their nature; their color is then more or less brown, their odor aromatic and penetrating, and their taste acrid. According to Vauquelin, the juice obtained from the fresh leaves contains a red animal matter, soluble in water and alcohol, volatile, colorless, and apparently the active principle; a green resin, albumen, ligneous fibres, acetic acid, and some salts. The tobacco of commerce contains, besides, some carbonate of ammonia. Water and alcohol take up easily its active principles.

Properties.—The properties of this plant are well known. Its influencing powers are everywhere felt. The Arab cultivates it in the burning sands of the desert, and will perform tedious and lengthy journeys through the arid waste to procure it. The Laplander places his life in jeopardy, amid the drifting snows of his country, to obtain it. The Indian, that roams the forest wild alone, finds in this article an indispensable companion. To the sailor and the soldier, the thundering cannon and the deprivation of every other luxury are nothing, if he can but procure this grateful morsel. And the polished citizen, although surrounded with all the pleasures and comforts of civilized and elegant society, is often unwilling to dispense with his favorite cigar; but the perniciousness of the habit and practice of using tobacco in this manner is well understood by every medical man, and all authors of any respectability unite in unqualifiedly condemning it. It was the opinion of John Quincy Adams that the average of human life was shortened five years by its use. Independent of its immediate effect upon the health of the system, which is very serious, it induces other habits if possible more pernicious. Dr. Rush observes: "Smoking and chewing tobacco, by rendering water and simple liquors insipid to the taste, dispose very much to the stimulus of ardent spirits." Dr. Adam Clarke has decidedly confirmed these views, and so have the greatest and most intelligent physicians of Europe and America. "What a brotherhood!" exclaims Dr. Caldwell: "there are but three animals that can abide tobacco—the African rock-goat, the most loathsome animal on earth, the foul tobacco-worm, and the rational creature MAN!"

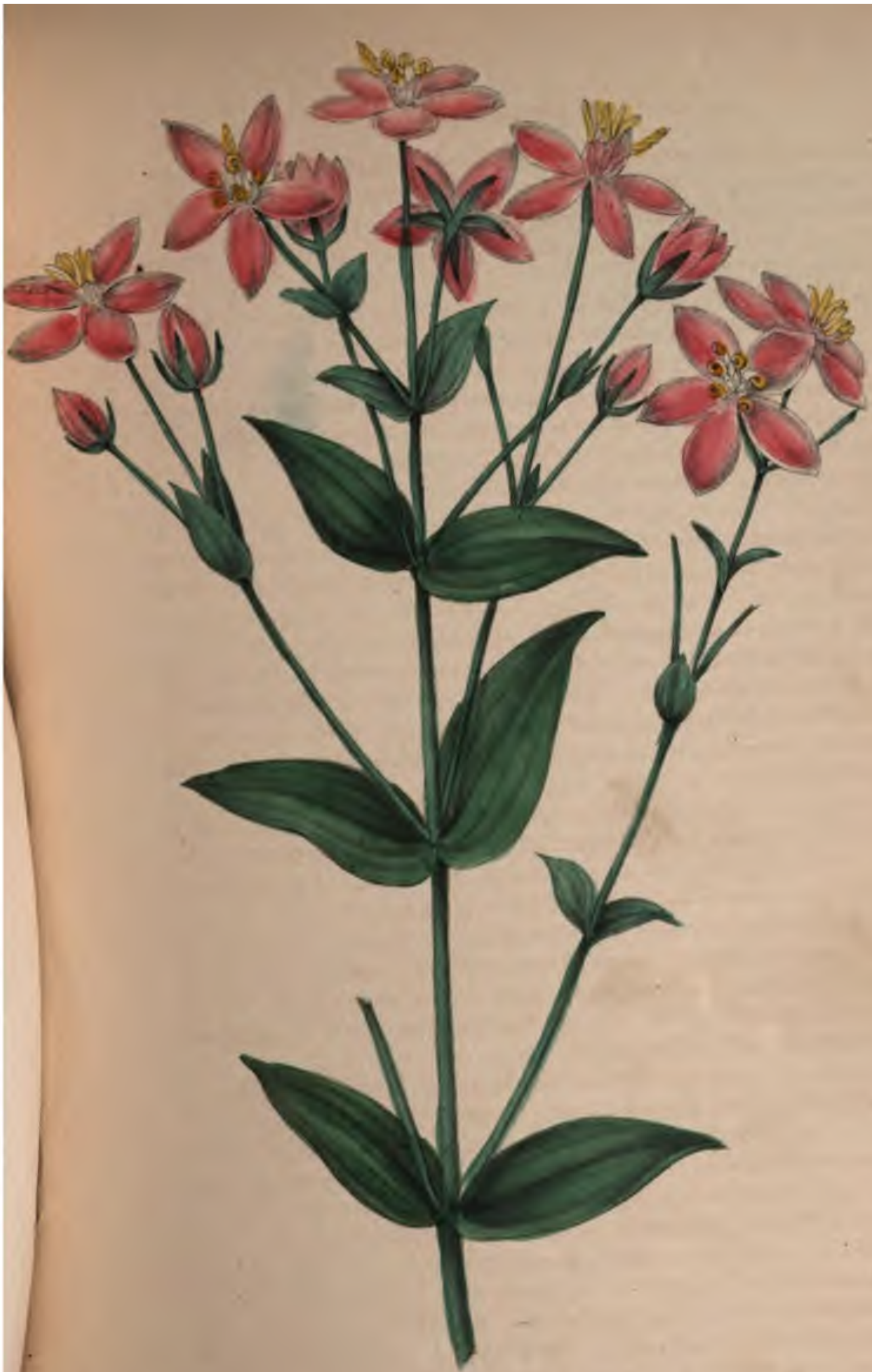
The Rev. Benjamin Ingersoll Lane published a few years ago an excellent work on the effects of this article, called the "Mysteries of Tobacco." This work called forth twenty-five responses from the best physicians and most eminent statesmen and divines of our country, fully confirming the views above expressed; and I sincerely recommend those works to the attentive perusal of the unfortunate victims of this pernicious practice. See also my Reformed Practice on the use of tobacco.

This article is emetic, narcotic, antispasmodic, errhine, &c. It is also sternutatory, making an excellent snuff for catarrh and affections of the head. It has been used by some physicians as an emetic, but it is not a fit article for this purpose. It is good in ulcers and in wounds. Jewett, who was cast away in Nootka sound, applied a leaf of tobacco, steeped in spirits, to a severe wound of the skull, received in an encounter with the Indians, and the application was successful. The wound was received upon the head by a tomahawk, causing a considerable depression of the skull. Upon his return to this country he showed me the scar, and stated that he used nothing else to effect a cure.

Employment.—As an internal remedy, this article is not much used in modern practice, being an unpleasant and unsafe agent. One remark of Dr. Hosack, while attending his lectures, struck me forcibly, as embodying as much truth as humor. He stated that "this plant was made for the *anus*, but not for the *mouth*." As an injection, it is very useful. I have succeeded in reducing strangulated hernia, where every other means failed, by the following: one dram of tobacco to a pint of boiling water; inject one half, and in an hour the other half. Lobelia here would probably be a good substitute, when tobacco is objectionable.

In ointment, it has proved very valuable in piles. The *Tobacco Ointment* of our pharmacopœia is of extraordinary benefit in this disease, applied with the finger as far up the bowel as possible, or on a piece of muslin; and for itching around the anus, prolapsis of the bowel, &c. The secret of one of the most popular and extensively-used compounds in this country has been communicated to me (as a secret), which I found to owe much of its virtue to this herb. It is an extraordinary and valuable remedy in many diseases.

Our *Tobacco Poultice* is a valuable application in piles, &c. The fine herb, taken as snuff for colds and stoppage of the mucus in the head, affords almost immediate relief. Dr. Gower has published some cases of the treatment of neuralgia with an aqueous solution of the extract of tobacco rubbed upon the face, which was quite successful, and proved so likewise in severe toothache.



Sabbatia Angularis.

58

GENUS POLEMONIUM.—Calyx bell-form, half 5-cleft; corol bell-wheel form, 4 or 5 lobed, erect; stamens bearded at the base on 5 valves, closing the bottom of the tube; stigma 3-cleft; capsule roundish, 3-celled, many-seeded; valves membrano-crustaceous; seeds oblong, sub-triangular.

NO. 56.—ABSCESS-ROOT.

Common Names.—Greek Valerian, Blue-bells, Sweat-root, &c.

P. REPTANS.—Leaves pinnate, flowers terminal, nodding.

Description.—Roots perennial, small, numerous, and fibrous, all growing from one head. The flowers are small, blue, appear early in the season, producing small seeds. Several stems often arise from the same root, growing in damp woods to the height of one or two feet.

Properties.—The root is employed, in decoction, in consumption and all affections of the lungs and liver, and is found useful in many chronic complaints, particularly those of a scrofulous character. The Indians used it in fevers, pleurisies, and in all cases where they wished to produce copious perspiration.

Employment.—It is most commonly used in decoction. A small handful in three pints of boiling water, steeped down one half, of which the dose is half a teacupful every four hours. A tincture is made in whisky: dose half a wineglass three times a day, to cleanse the system and blood of vitiated humors, and which is valuable to persons afflicted with boils.

GENUS RHAMNUS.—Calyx cup-form, 4 or 5 cleft; corol consists of scales fancing in or opposite to the stamens, and inserted on the calyx; stigma 2 or 4 cleft; berry 3 or 4 seeded.

NO. 57.—BUCKTHORN.

R. CATHARTICUS.—Thorns terminal; flowers 4-cleft, diœcious; leaves ovate, serrate.

Description.—This is a shrub indigenous to Great Britain and this country. It rises to the height of seven or eight feet, with a smooth, dark-brown bark and yellowish wood; branches alternate, spreading; the flowers are small, in thick clusters, on the extremities of the last year's branches. The berries when ripe are black, about the size of a pea.

Properties.—Drastic, hydragogue, nauseous, and bitter. The juice of the berries is a violent purgative, attended with much griping.

Employment.—It is not employed much alone; but a sirup, combined with aromatics, is sometimes used in dropsy, rheumatism, gout, &c., and as a vehicle in making up pill-mass. The inspissated juice of the berries, with the addition of a little alum, forms the color known as *sap green*.

GENUS SABBATIA.—Calyx 5 to 12 parted; corol wheel-form, 5 to 12 parted; stigmas 2, spiral or coiled; anthers becoming revolute; capsule 2-valved, many-seeded.

NO. 58.—AMERICAN CENTAURY.

Common Names.—Rose-Pink, Wild Succory, Bitter-bloom, &c.

S. ANGULARIS.—Erect; leaves heart-ovate, clasping; flowers with long peduncles, corymbed; divisions of the calyx lance-linear; stem with 4-margined angles.
Synonyms.—*Chironia angularis*, Linn.; *Centaurium minor.*

Description.—This is a biennial herbaceous plant, with a fibrous root, from one to two feet in height, growing throughout the middle and southern states. The flowers are numerous, in clusters, of a beautiful, delicate rose-color, and blossoms in July and August. It is for the most part found in low meadows.

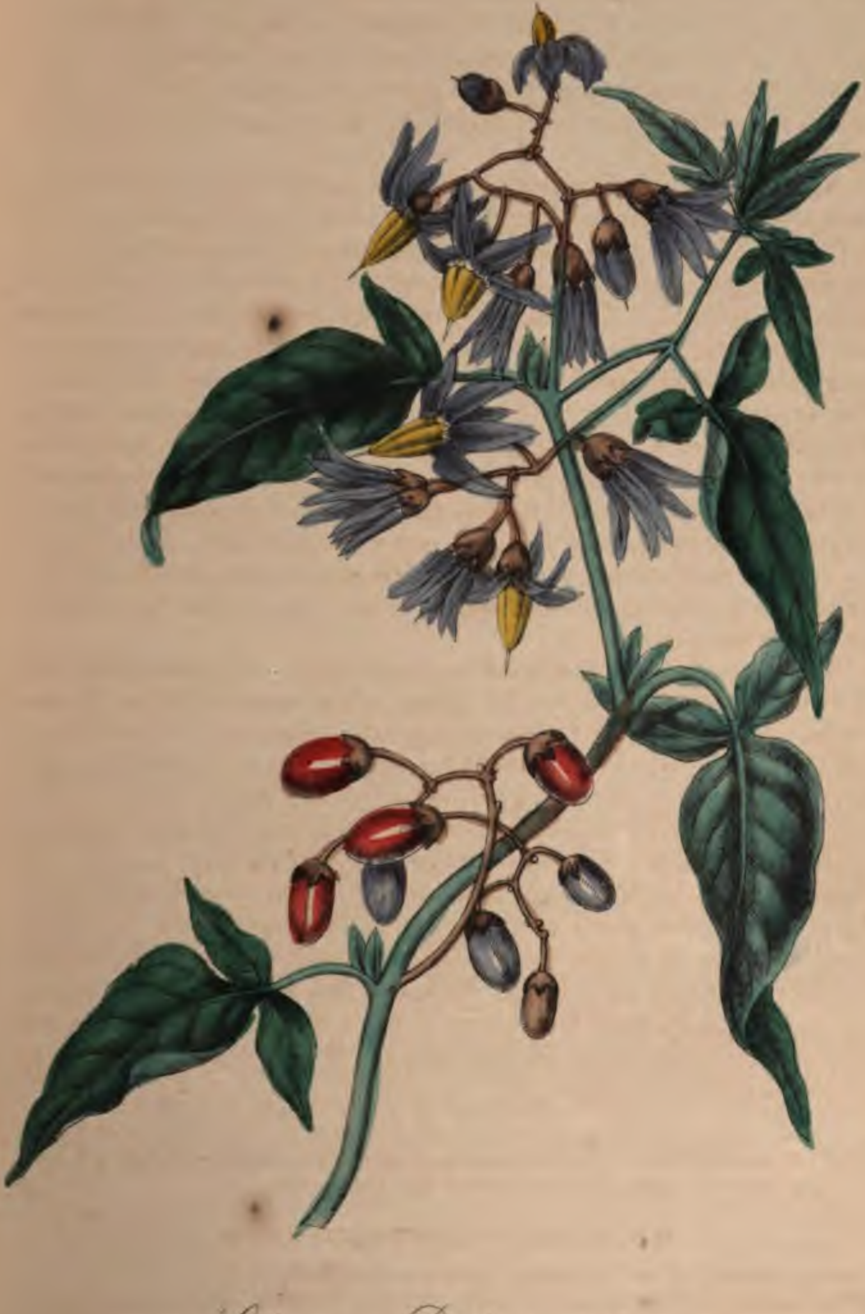
Properties.—Tonic, stomachic, emmenagogue, febrifuge, and vermifuge. Centaury is justly esteemed one of the most efficacious bitters indigenous to the United States, and is a good substitute and quite an equivalent for the English gentian, which it resembles in taste. The whole plant is used; it is quite as good as the European, long used for fevers before the Peruvian bark was known. Every part of the plant affords a pure, strong bitter, soluble in water and alcohol. It has no astringency, and hardly any aroma. The property resides in the extractive principle. It is a popular remedy throughout the country as a stomachic febrifuge and a cure for intermittent fevers. It is useful in all kinds of fevers, remittent, nervous, and typhus, and may be given in every stage. It promotes appetite and digestion, and is said also to be a menagogue and vermifuge in a warm decoction. In debility of the digestive organs and in dyspeptic complaints it has been proved very serviceable, and is thought to be admissible in cases where other tonics would not answer the purpose.

Employment.—Two ounces of the leaves and flowers of centaury, and one ounce of orange-peel, may be infused in two quarts of brandy for two weeks. One tablespoonful of this tincture, taken before breakfast and dinner, will create an appetite; and children having worms may take two teaspoonfuls or more every morning, which will effectually destroy them. In the cure, and to prevent intermittent fevers, a wineglassful, with twenty drops of elixir vitriol in it, is recommended twice a day, on an empty stomach. In fevers, a tea made of two ounces of the flowery tops of centaury, and a handful of balm, in two quarts of rain-water, may be drank five or six times a day. In order to restore the menses, pour two quarts of water on two ounces of tops, and steep for half an hour; then strain, and add a pint of rum. Dose, a teacupful four times a day, together with fomentations, &c. In powder, the dose is from 10 to 20 grains. Wine is a good vehicle for it, a wineglassful being a dose.

GENUS SOLANUM.—Corol monopetalous, wheel-form; anthers slightly adhering, opening by two pores at the top; berry superior, 2-celled.

NO. 59.—BITTERSWEET-HERB.

Common Names.—Woody Nightshade, Bittersweet Nightshade, &c.
S. DULCAMARA.—Stem unarmed, woody, climbing, flexuous; upper leaves halbert-shaped; lower ones cordate; clusters cymed; berries scarlet.



Solanum Dulcamara

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Description.—Stems sarmentose, lignous at their base, herbaceous in the rest of their length, several feet long; leaves alternate, tri-lobed; flowers violet, pedunculate, and in clusters; calyx persistent, very small; corolla with narrow lobes, marked at their base with two small green dots; stamina partly united in a cone; fruit an ovoid, red berry.

It is an under-shrub or vine indigenous to Europe, and is now naturalized in this country. It flowers in June and July. This plant possesses a strong and virose smell, which becomes weaker on dessication; the taste is at first bitter, and afterward sweetish. Bittersweet contains an alkaloid substance, discovered by Desfosses, and called by him *Solania*, combined with a peculiar acid, discovered and denominated *Solanic acid*, by Peschier; and several salts, with bases of lime and potassa. Water dissolves its active principles.

Properties.—Dulcamara, when given internally, produces irritation in the digestive canal, and when absorbed it appears to act principally upon the cutaneous vessels. It does, in fact, cause a perspiration, and a pricking and itching sensation of the skin. It acts likewise upon the nervous system, as its employment is sometimes followed by some slight convulsions, and a degree of heaviness in the head. It is very beneficial when administered internally, in combination with yellow dock, in scrofulous and scirrhous diseases. It is also beneficial in liver-complaints, in all cutaneous diseases, and in ill-conditioned-ulcers. It is narcotic, diaphoretic, repellant, diuretic, and aperient.

Employment.—In this country the small twigs and leaves are the parts used in medicine. The dose, of the powder, is from half to one dram, but seldom prescribed in that state. The sirup in which the solanum is combined with other agents, is a favorite remedy in scrofula, herpetic and ulcerous sores, syphilitic complaints, and all taints of the blood. The decoction may also be administered, and it makes an excellent wash in the above diseases.

NO. 60.—TOMATO.

Common Names.—Love-Apple, &c.

S. LYCOPERSICUM.—Stem unarmed; leaves pinnatifid, gashed; racemes 2-parted; fruit glabrous, torulose.

Description.—The tomato-plant is an annual, about two feet high, with a large, succulent stem and branches, much resembling the potato-vine. The fruit is esculent, and much used for culinary and medical purposes. It is a native of South America, and cultivated in Europe and America, having been introduced by Gerarde in 1596.

Properties.—The fruit is tonic, stimulant, laxative, diuretic, and diaphoretic, and is well adapted for dyspepsia, constipation, liver-complaints, &c. Its hygienic powers are well known and established by the testimony of our best writers, pronouncing it one of the most wholesome and valuable esculents that belong to the vegetable kingdom, and its medical properties are important and valuable. It appears to have a specific action upon the liver, quickening its action and exciting an abundant and healthy secretion of the bile; and in dyspepsia it is not too much to say that it may be considered a sovereign remedy. The Indians use it as a diuretic, and to expel concretions from the kidneys. The juice of the vine affords one of the most durable vegetable colors known to dyers, beautiful and brilliant.

Employment.—The inspissated juice of the fruit, made into pills, may be administered in doses of from 30 to 40 grains at night; and a sirup, made of the fresh juice of the ripe fruit and sugar, will be found an excellent assistant in treatment of the above diseases. As a diet for dyspeptics, with the addition of salt and pepper, it is valuable to be used freely, being both food and physic.

NO. 61.—GARDEN NIGHTSHADE.

Common Names.—Black Nightshade, &c.

S. NIGRUM.—Stem unarmed, herbaceous; branches angled, dentate; leaves ovate, angular, toothed, and waved; racemes nodding; berries black.

Description.—Stalk upright, cylindrical, green, and hollow; it rises from one to two feet high; ramous leaves, green, ovate, dentated, edges serrate; flowers white, standing upon the tops of the stalk; petals 5-pointed; stamens 5, yellow, and set together; fruit a berry, black, of the size of a pea, containing whitish, rounded, flattened seed. It is an annual plant, a native of Europe, and naturalized in this country; found growing along old walls, fences, and in gardens. The root is white, a little woody when in the state of maturity. It contains, like the bittersweet, *Solania* united with malic acid, and the medical effects are similar, but not so energetic.

Properties.—The herb is narcotic and discutient, but seldom administered alone. It enters into the *Discutient Ointment* of our pharmacopœia.

Employment.—It is excellent for all malignant ulcers, combined with the belladonna, hyoscyamus, and datura. The extract, enclosed in linen, and applied to any painful part, will relieve the pain speedily.

GENUS SPIGELIA.—Corol monopetalous, funnel-form; capsule double, 2-celled, many-seeded; stigma simple.

NO. 62.—PINK.

Common Names.—Carolina Pink, Worm-grass, Indian Pink, Star-bloom, &c.

S. MARILANDICA.—Stem quadrangular, erect; leaves sessile, ovate, lanceolate, acuminate, entire; flowers large, spiked, swelling in the middle, deep red.

Description.—Stems numerous, from one to two feet high, 4-sided, smooth, and of a purplish color; leaves few, sessile, opposite, ovate, and acuminate; flowers on a unilateral spike, leaning toward one side, and composed of from four to twelve flowers; calyx 5-parted; corolla funnel-shape, contracted at top, with five acute segments, of a beautiful carmine color externally, except toward the base, where it is blended with white; of an orange color inside; anthers convergent; capsule didymous, 2-celled, 4-valved, containing many seeds.

It is a perennial herbaceous plant, indigenous to this country; found growing in the southern states, from Maryland to Florida. The root consists of a great number of slender and blackish fibres, forming together a large bunch. They have become an article of commerce, and are sent from the south in bundles of twenty to twenty-five inches long, of the entire plant. Their taste is bland and somewhat nauseous. The pink contains a large quantity of mucilage, an acrid resin, bitter extractive, and woody fibre. Water is considered an adequate solvent for the chief proximate principles.

Properties.—This article is well known to possess surprising anthelmintic or vermifuge properties, which act particularly upon the kind of worm called lumbrici, by destroying them. In this country it has superseded the use of almost all other worm-medicines. In its recent state it is more certain in its operation than when it becomes old, and is a powerful medicine when given in large doses, often producing narcotic effects.

Dr. H. Thompson found it to produce acceleration of the pulse, flushed face, drowsiness, and a sensation of stiffness of the eyelids. Dr. Eberle mentions a case where a strong decoction of the root, administered to a child six years old, occasioned a complete mental derangement, of the same nature as that produced by the seeds of stramonium. These symptoms went off in the course of twenty-four hours, and left him quite as well as he had been before. Dr. Chapman and other physicians suppose that the virtues of this medicine, as an anthelmintic, depend upon its narcotic properties. It likewise possesses cathartic properties in a slight degree.

Employment.—This medicine may be administered in powder or decoction. When given as a vermifuge, some brisk cathartic should be added, as senna, &c. In doing so, we increase the powers of the remedy, and prevent any unpleasant nervous symptoms. Dose of the powder, for a child, from five to ten grains; of the decoction, put from half to one ounce of the herb in a pint of water, and boil: given by wineglassfuls every two or three hours; but it is generally combined with senna-leaves, in order to procure the expulsion of worms as soon as they have been destroyed or weakened. If, however, no worms should be discharged, it often gives relief, and its administration should always be followed by a tonic and stomachic after-treatment. The following form is remarkably efficacious: take equal parts of pink root and leaves, senna, and manna; make a strong tea or infusion; sweeten. To a child four or five years old give a gill three or four times a day until it acts upon the bowels. This makes the *Worm Powder* of our pharmacopœia, which is found to be perhaps the best of any for worms in children that we ever saw exhibited—combining more certainty and power than when the herb is given alone.

GENUS STRYCHNOS.—Corolla tubular, 5-cleft; berry 1-celled, with from 1 to seeds, having a hard, woody rind; stigma capitate.

NO. 63.—NUX-VOMICA.

Common Names.—Poison-nut, Rat's-bane, &c.

S. NUX-VOMICA.—Leaves ovate, petiolate; stem unarmed.

Description.—This is a very poisonous plant, a native of the East Indies, and imported into Europe and this country extensively. The allopathists have used it for over a century, notwithstanding the notorious danger and uncertainty attending its exhibition in disease. I insert it here merely to call attention to STRYCHNINE, a vegetable alkali discovered in it, and to the other preparations of the article which I have treated upon in another place.

In cases of being poisoned from this substance, keeping up artificial respiration is of the utmost importance; hot brandy and water should be given, and the treatment before recommended for vegetable poisons pursued.

GENUS SYMPHITUM.—Corol with a tubular, swelling border; the throat closed with subulate rays; calyx 5-parted.

NO. 64.—COMFREY.

Common Names.—Healing-herb, Gum-plant, &c.

S. OFFICINALE.—Leaves ovate, lanceolate, decurrent, rugose.

Description.—Stem herbaceous; leaves oval, lanceolate, acute; flowers white or of a rose-color, in spikes at the extremity of the branches; corolla tubular, furnished with five lanceolate and acute processes. This plant is indigenous to Europe, but naturalized in this country, growing in gardens and meadows; it flowers in May and June. The root of this plant is large, elongated, blackish on the outside, white inside; at first of an insipid and mucilaginous taste, but becoming afterward slightly astringent. It contains a good deal of mucilage, and a little gallic acid.

Properties.—The roots of this plant are demulcent, pectoral, and astringent; very useful in diarrhœas, dysentery, and hemoptysis; likewise as a demulcent in pulmonary irritations arising from colds, coughs, &c. In phthisis pulmonalis (consumption) it is a valuable remedy. We make extensive use of it, in combination with other ingredients, and principally in the form of sirup.

Employment.—Decoction, from half to one ounce, in one quart of water or milk. It enters into our *Pulmonary Balsam* and *Restorative Cordial*, and is very useful in leucorrhœa (whites), debility, dysentery, soreness of the stomach, diseases of the bowels and urinary organs, in scalding of the urine, and in piles. It also makes a good drink for coughs, colds, and catarrhal affections; in female weaknesses, and wherever mucilaginous medicines are indicated. The fresh leaves, bruised and applied externally, are beneficial to sprains, wounds, and ulcers; and the fresh root makes an excellent poultice for white swelling.

GENUS TRIOSTEUM.—Calyx permanent, of the length of the corol, 5-cleft, with linear divisions; corol tubular, 5-lobed, sub-equal, gibbous at the base; stigma capitate, sub 5-lobed; berry 3-celled, 3-seeded.

NO. 65.—FEVER-ROOT.

Common Names.—Horse-Ginseng, Wild Coffee, Wild Ipecac, &c.

T. PERFOLIATUM.—Leaves oval, acuminate, connate, sub-pubescent beneath; flowers sessile, whorled; berries purple or yellow.

Synonym.—*Triosteum majus*, Mx.

Description.—This is a perennial, indigenous plant. Several stems usually rise from the same root, and grow from one to four feet high, simple, round, hairy, and herbaceous; the leaves are large and opposite; the flowers are of a dull-purple color, and the berries oval, and of a deep-orange color. It flowers in June.

Properties.—Cathartic, tonic, and diuretic. The whole plant has a bitter taste, but the root is the most active, and generally used. Water and alcohol take up its active properties, which are also retained in the extract. It is useful in fevers, agues, pleurisies, &c.

Employment.—The bark of the root, in quantities of from 20 to 30 grains, acts on the bowels; of the extract, half the quantity. The leaves are diaphoretic. The seeds have been used as a substitute for coffee.

GENUS VERBASCUM.—Corolla rotate, somewhat unequal; capsule 3-celled, 2-valved.

NO. 66.—MULLEIN.

Common Names.—Great Mullein, Common Mullein, &c.

V. THAPSUS.—Leaves decurrent, on each side, tomentose; stem simple.

Description.—The stem rises from three to eight feet in height; leaves large, without foot-stalks, at the base decurrent, oblong, pointed, indented at the margin, and covered on both sides with fine down or hair; flowers yellow, and clothe the extremity of the stalk, and are produced in succession from the bottom to the top. Calyx cut into five acute segments, and covered with down; corolla also divided into five segments, which are blunt and somewhat unequal.

This is a biennial plant, a native of Great Britain, and is probably indigenous to this country: it grows plentifully with us, along the road-sides and in old fields. The leaves of this plant possess a bitterish, sub-astringent taste, and a mucilaginous quality. The flowers contain saccharine, chlorophyle, yellow resin, volatile oil, malic and phosphoric acid.

Properties.—The blossoms of this plant are anodyne, anti-spasmodic, pectoral, demulcent, astringent, and discutient. They make a very pleasant tea, which is useful in coughs, hemoptysis, hemorrhage of the lungs and bowels, &c. The leaves in infusion are very useful in dysentery, and in piles they make a valuable fomentation to discuss the tumors.

Employment.—The infusion of the leaves and flowers combined is administered in diarrhœa and looseness with advantage, and is said to be very useful in consumption, and may be drank freely. It is also efficacious in colics and ardor urinæ. It likewise makes a good wash for piles, scalds, and wounds in cattle. In the form of a poultice the leaves and pith of the stalk are useful in white swellings, sprains, and inflammations. The leaves boiled in vinegar, or bruised and saturated with tincture of myrrh, are applied with advantage to offensive sores, swellings, and contracted sinews. The seeds yield an oil which is a good application also for the last-mentioned complaints. The blossoms, saturated with rose-water, make an excellent wash for weak eyes, and a watery distillation of them for erysipelas. Dr. Leavitt, of this city, says that a decoction of mullein and white-oak bark, sweetened, and given freely, is an excellent remedy in the bilious diarrhœa, which has been so prevalent here during the recent visitation of the cholera.

GENUS VIOLA.—Calyx of 5 sepals, extended at the base; corolla of 5 petals, irregular, the under one spurred at the base; anthers cohering, the two lower spurred at their backs; capsule 3-valved, 1-celled.

NO. 67.—BLUE VIOLET.

V. CUCULLATA.—Glabrous; leaves cordate, somewhat acuminate, crenate-dentate; autumnal ones largest, very exactly reniform; peduncle somewhat 4-sided, longer than the leaves; divisions of the calyx subulate, acuminate, emarginate behind or very entire, white at the base, upper one generally naked, glabrous, lateral ones bearded, and, with the upper one, marked with a few blue lines.

Synonym.—*Viola obliqua*, Sz. and T.

Description.—This is a well-known little plant, growing on rich, moist land, and in pastures and meadows. The blossom is of a beautiful blue-violet color, and rises a little above the leaves. The root is perennial, externally rough, seldom as large as the little finger, or more than an inch in length.

Properties.—Diaphoretic, expectorant, and laxative. The properties of all the violets, of which we have about forty native species, are nearly alike—the leaves and blossoms being laxative, pectoral, &c., and the roots commonly mildly emetic and cathartic. The present species is considered an equivalent for the *Viola odorata* of the European pharmacopœias.

Employment.—As a diaphoretic, laxative, or nephritic, from half to a teaspoonful of the powder is a dose; the same dose, with the addition of a little cayenne, is administered as an expectorant. A decoction is given to children in eruptive diseases, and a grateful sirup is made from the petals for the cough, sore throat, and constipation, of children. The roots are considered tonic, in doses of 10 grains; purgative, in from 25 to 30 grains; and emetic, in from 40 to 50 grains.

Order 33. Digynia.—Bearing flowers with but two styles or sessile stigmas.

GENUS ANETHUM.—Seeds flat or convex, 5-ribbed; germ lenticular, compressed calyx and petals entire; involucres none.

NO. 68.—FENNEL.

Common Names.—Sweet Fennel, &c.
A. FŒNICULUM.—Fruit ovate; plant perennial.

Description.—This is a plant rising four feet in height; stem ramose, smooth; leaves vaginant at their base; flowers on terminal umbels, of a pale yellow, without involucrum or involucellum; three petals revolute; stamina spreading, longer than the corolla; fruit elongated, flattened on the edges. It flowers in June and July: fruit ripe in September. It is a native of Spain and Portugal, and is perfectly naturalized to this country; grows principally in gardens. The seeds are of a pale-green color, of a strong aromatic and agreeable smell, and of a sweetish and slightly-acrid taste. The root is long, of the size of the finger, and almost inodorous. Fennel-seeds contain a green essential, and a fixed, inodorous, and tasteless oil. Water, and especially alcohol, take up their active principles.

Properties.—Fennel-seeds are endowed with energetic properties as a stimulant, stomachic, and carminative, which appear to consist in the essential oil which they contain. They are principally employed in flatulencies, difficult digestion, such as dyspepsia, and in colic of children. They are useful in pain and weakness of the breast.

Employment.—Of the infusion, or tea, give freely through the day. The dose of the seeds pulverized may be from a scruple to a dram: taken in this way, or boiled in milk, they are beneficial in removing visceral obstructions; but they are generally employed in infusion, as above, or as a carminative in bitters and compounds. The oil is good in flatulency and is also a diuretic.

NO. 69.—DILL.

Common Names.—Garden Dill, Dilly, &c.
A. GRAVOLENS.—Fruit compressed; plant annual.

Description.—This is a hardy plant, a native of the cornfields of Spain and Portugal, and appears to have been introduced into England about the year 1570. It is cultivated in our gardens as a medicinal plant, flowering in June and July. The whole plant is smooth, and rises to the height of two or three feet. The plant and seeds have a powerful aromatic odor, and a moderately warm and pungent taste.

Properties.—Seeds carminative, stomachic, and aromatic stimulant, and much resemble the anise and caraway in their therapeutical effects; they are consequently used in dyspepsia, flatulency, &c. In India the infusion is given as a stomachic, and as a grateful cordial drink to women immediately after parturition. The seeds yield their properties completely to alcohol, and partially to boiling water in infusion.

Employment.—In substance, the dose is from 10 grains to a dram; and the distilled water, tincture, or infusion, as a vehicle for purgative, griping medicines, the action of which they correct. The dose of the oil is from one to five drops, rubbed up with sugar.

GENUS ANGELICA.—Seeds with 3 ribs on their backs, and winged margins; intervals between the ribs grooved; germ oval, corticate; general involucre none.

NO. 70.—GARDEN ANGELICA.

Common Names.—European Angelica, Archangel, &c.

A. ARCHANGELICA.—Leaves with the odd terminal leaflets 3-lobed.

Description.—This plant is a native of the north of Europe, in mountainous regions, and especially among the Pyrenees. It is cultivated in Europe, and may occasionally be found in our gardens. The whole plant has a fragrant odor, and possesses aromatic properties; but the root and seed only are officinal. Every part has a warm and bitter taste, and the root and seeds more especially contain an essential oil, resin, and an extractive matter.

Properties.—Angelica is an elegant aromatic stimulant, sudorific, and carminative, but it is little employed in this country. The Laplanders, in whose country it flourishes, esteem it highly as a condiment and medicine for coughs, colds, and pectoral disorders, in catarrhal fevers, and to strengthen the stomach and bowels in diarrhœa. Dr. Stevens, a botanic physician of some eminence in Bath, England, speaks very highly of this plant, particularly in diseases of the kidneys and bladder, acting as a diuretic and diaphoretic.

Employment.—The dose of the root or seeds is from 30 grains to a dram. It is used for the general purposes of a carminative and tonic stomachic. In Europe the stems are made into a preserve for desserts, to excite the stomach and facilitate digestion.

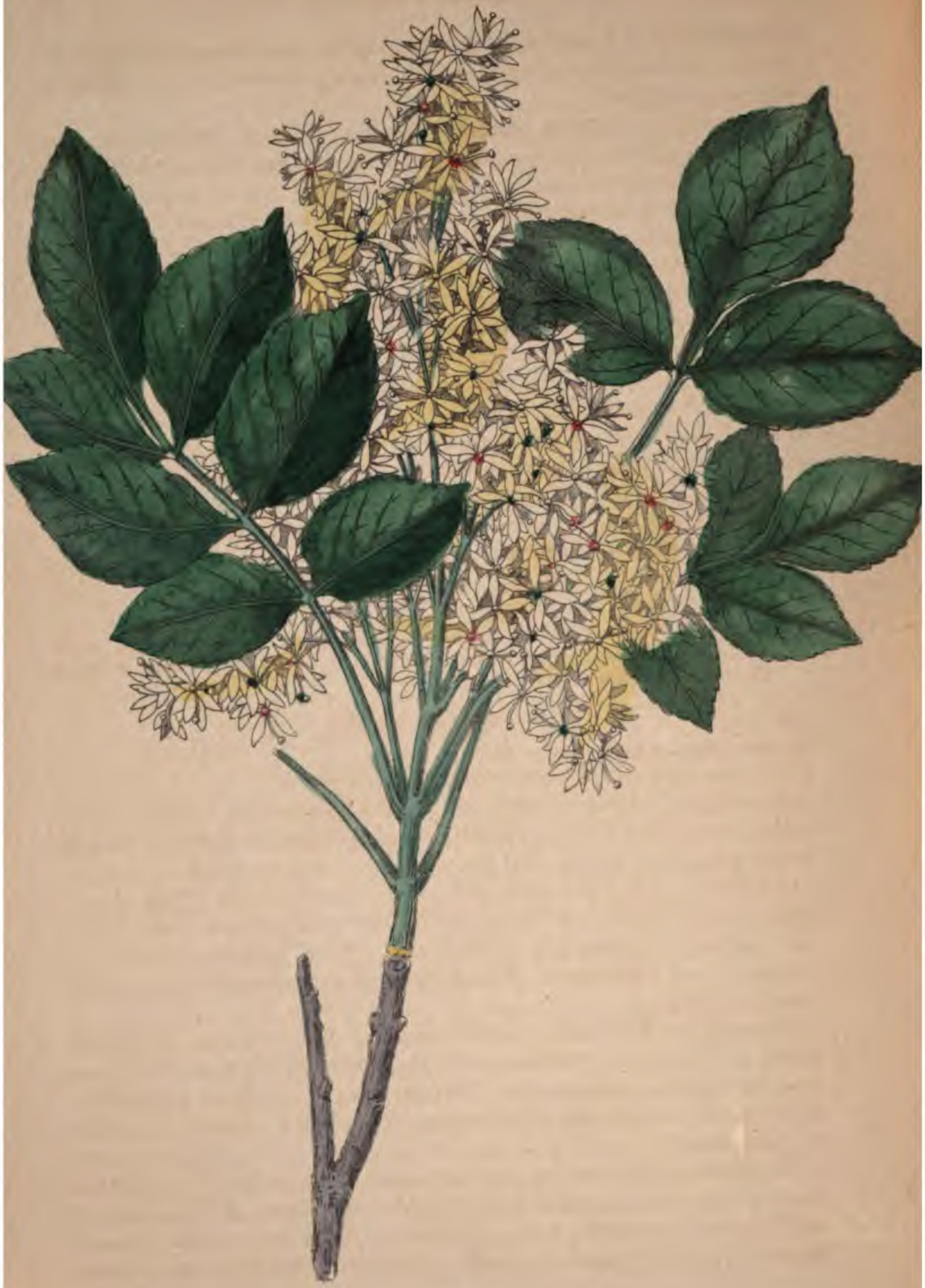
Adulterations.—This is sometimes adulterated with the lovage-root, which may be detected by its yellow-colored pith when cut transversely—that of angelica being white.

NO. 71.—ANGELICA.

Common Names.—Common Angelica, &c.

A. ATROPURPUREA.—Stem smooth, colored; leaves ternate; partitions sub-quinate; leaflets ovate, acute, gash-serrate, sub-lobed; 3 terminal ones confluent; petioles very large, inflated.

Description.—This is an indigenous species of the angelica. It is smaller than the preceding, with a less succulent stem. The root is perennial, of a purplish color, and the flowers of a greenish-white. It is found from Canada to the Carolinas, growing in meadows and marshy grounds, and blooming in



Fraxinus Ornus.

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June and July. It has a strong odor, and a warm, aromatic taste. The juice of the fresh root is acrid, and said to be poisonous, but this quality is dissipated in drying.

Properties.—Angelica possesses very powerful stimulant, aromatic, carminative, discutient, and emmenagogue properties, and may be administered with advantage in all diseases in which an excitant may be required in disorders arising from flatulence and debility of the stomach and digestive organs. It is recommended in nervous-headache pains, in tremors of the limbs, chlorosis, hysteria, &c. It has been exhibited in the last stage of chronic catarrhs of the lungs with success, in order to facilitate expectoration, and restore tone to the mucous membrane.

Employment.—We use it in the form of infusion or tea for flatulence, and for clysters or injections in that species of dropsy called *Tympanites.* It may be given also for pain in the breast. Alone or combined with tonics it is excellent to raise the spirits, strengthen the stomach, and create an appetite. The root may be taken in powder in teaspoonful doses, or the seeds and roots may be infused gently in water or spirits. The green root, bruised and laid on inflammatory tumors, will tend to disperse them. We believe it to be a good substitute for the *A. archangelica.*

GENUS APIUM.—Seeds convex externally; ribs 5, small, a little prominent; germ sub-globose; perianth entire; petals equal, roundish, inflexed at the apex; involucre 1 to 3 leaved, or wanting.

NO. 72.—PARSLEY.

Common Names.—Rock-Parsley, &c.

A. PETROSELINUM.—Cauline leaves linear; involucre minute.

Description.—Parsley is a biennial plant; it rises two feet in height. The radical leaves are without foot-stalks, compound, pinnated in threes; the leaflets are smooth, veined, divided into three lobes, and notched at the margin; flowers small, of a yellow color, placed on terminal umbels. This plant is indigenous to the south of Europe, but is likewise naturalized to our climate, and is generally cultivated for culinary uses. It has an aromatic and agreeable smell, and a faint taste. The seeds are of a warmer and more aromatic taste than the plant.

Properties.—The whole plant is powerfully diuretic and gently aperient, and is used in dropsy, affections of the bladder and kidneys, gravel, obstructions of the liver, and jaundice. Several cases of dropsy of the abdomen have been cured with this article alone. The seeds in infusion are said to be carminative.

Employment.—In infusion, the whole plant, or decoction of the roots and seeds alone, may be used and drank freely. Dr. Potts, of England, used the juice in intermittent fevers, as a substitute for quinine, with success: three ounces to be taken in two doses a few hours before the fever comes on.

The bruised leaves possess discutient qualities, and make a good poultice for various kinds of tumors.

GENUS CARUM.—Seeds oblong-ovate, striate; petals carinate, emarginate, inflexed; involucre about 1-leaved.

NO. 73.—CARAWAY.

C. CARUI.—Stem branching; leaves with ventricose sheaths; partial involucre none.

Description.—Caraway is an umbelliferous, biennial plant, a native of the north of Europe; it flowers in June, and ripens its seed in August and September. The root is spindle-shaped, and the stalk rises to the height of about two feet. The flowers are numerous, in an umbel of usually ten rays, and of a white or pale-flesh color.

Properties.—This plant is cultivated in our gardens, for both medicinal and culinary purposes. On account of their aromatic smell, and warm, pungent taste, the seeds of caraway may be classed among the finest stomachics and carminatives of our climate. To persons afflicted with flatulency, and liable to colics, if administered in proper quantities, they generally afford considerable relief, and may sometimes be used with advantage in agues. They give an agreeable flavor to more powerful tonics and stimulants, and may therefore be combined with them advantageously. They give out their virtues partially to water, and wholly to alcohol. The oil is stimulant and carminative, and is often used to cover the taste of unpleasant medicines, and to prevent their griping.

Employment.—The dose of the seeds in substance is from a scruple to a dram. An infusion of two drams in a pint of boiling water is a pleasant way of administration. The dose of the oil is from one to ten drops.

Adulterations.—The oil is often adulterated with oil of turpentine, which may be detected by the odor when dropped on a heated iron.

GENUS CHENOPODIUM.—Calyx 5-parted, obtusely 5-angled, inferior; style deeply 2-cleft; seed 1, lens-like, horizontal, inverted by the calyx.

NO. 74.—WORMSEED-PLANT.

Common Names.—Wormseed, Wormseed-Goosefoot, Stinking-weed, &c.

C. ANTHELMINTICUM.—Leaves oval-oblong, sessile, sinuate-toothed; flowers terminal, sessile, in glomerules, forming leafless panicled slender spikes.

Description.—Root perennial and branched; stem upright, grooved, and branched; branches fastigiate, giving a shrubby appearance to the whole plant, which rises from two to five feet in height; leaves sessile, alternate, or scattered; attenuated at both ends, oval or oblong, rather thick, dotted beneath; margin sinuate by large, unequal, obtuse teeth; nerves very conspicuous. Flowers very small, numerous, and yellowish-green, like the whole plant, forming large, loose, leafless, terminal panicles, composed of many slender, alternating, small spikes, and these of many small, scattered, unequal glomerules, containing from five to twelve sessile flowers; calyx or simple perigone with five short, oval segments; stamina opposite to the segments, and protruding; styles bifid or trifid, filiform, longer than the stamina; seed flat, lenticular, shining, covered by the persistent calyx. Grows in all parts of the United States.

The whole plant has a strong, pungent smell, somewhat like valerian, which is disgusting to many persons; this smell is easily known, and enables us to distinguish it from some other consimilar species, which are often blended with it: such are the *C. ambrosioides* and *C. botrys*, whose smell is agreeable and fragrant, although strong. The strong smell of the plant is owing to an essential oil, very penetrating or pungent, in which resides the medical property. It is diffused throughout the whole plant, particularly in the globular dots of the leaves, and the seeds. The taste is bitter, acrid, and aromatic.

Properties.—A powerful vermifuge, one of our best and most efficient anthelmintics, used in both America and Europe, and equal to the officinal wormseed, which is the *Artemisia santolina*, a very different plant, native of Syria and Africa. It speedily expels the lumbrics and other worms of the intestines.

Employment.—It must be given in repeated, small doses, and in the most palatable form. The seeds and their essential oil are the most efficacious: five to ten drops of the oil, mixed with sugar, are a common dose for a child, or a tablespoonful morning and night, fasting, of an electuary made of the pulverized seeds with honey. A conserve, marmalade, sirup, beer, decoction in milk of the leaves, or even their juice, are also used. Children often dislike the strong smell of this medicine, and it must be disguised by orange-peel or sweet substances. A teaspoonful of the powdered herb and seed, united with powdered peppermint, for a child two or three years old, may be taken night and morning before eating, for two or three days, and then follow with a brisk cathartic. The decoction in milk is highly recommended in after-pains of women.

Adulterations.—The oil is frequently adulterated with the oil of turpentine and that of the *C. botrys*, which lessen its power: it may be known by a less pungent smell.

NO. 75.—OAK OF JERUSALEM.

C. BOTRYS.—Leaves oblong, sinuate; racemes naked, many-cleft; sweet-scented.

Description.—This is an indigenous plant, growing all over the United States, by the sides of roads and in neglected fields; it reaches the height of about twelve inches, bears many small green flowers, and has an odor something like the wormseed, but not so strong, and more fragrant.

Properties.—Vermifuge, pectoral, stomachic, carminative, anti-spasmodic, and emmenagogue. It is said to have been used in France with advantage as a pectoral in catarrh and humoral asthma. In this country it is frequently prescribed as an anthelmintic in worm-complaints, in asthma, phthisis, convulsive coughs, difficult breathing, and similar complaints, with good success, and is useful in suppressed menstruation.

Employment.—It is usually given in infusion, either as a pectoral, antispasmodic, or emmenagogue. An oil is distilled from this plant which is used as an anthelmintic, but it is not equal to that of the true wormseed, and is frequently employed to adulterate that article with.

GENUS CONIUM.—Flowers tubulous, all fertile; petals cordate, equal; partial involucres halved; generally 3-leaved; seeds ovate, gibbous, 5-ribbed each side; the ribs curled before maturity.

NO. 76.—CICUTA.

Common Names.—Poison Hemlock, &c.

C. MACULATUM.—Seeds unarmed, striate; stem branched, shining, spotted.

Description.—This root is biennial, tapering, forked, eight inches long, and of the size of the finger. The stalks are six or seven feet in height, round, shining, branched near the top, striated near the bottom, and covered with a bluish exudation, appearing like a fine powder. The lower leaves are tripinnated, of a shining-green color, standing upon long, striated, concave footstalks, which proceed from the joints of the stem. Blossoms in summer, in umbels, from July to August. This plant is indigenous to Europe, but now naturalized in New England, New York, Pennsylvania, Virginia, Ohio, &c. It is mostly found in old fields, near roads and fences, on the banks of rivers, &c.

The leaves and fruit contain a peculiar alkaloid, which has been named CONIA, a volatile, odorous principle, albumen, resin, coloring matter, and some salts. The active principle is in this alkaloid. According to Brande, this substance is obtained by digesting the leaves and stem of the fresh plant, well bruised, for several days in alcohol; filter the solution, and evaporate to dryness; treat the alcoholic extract with water, and add to the aqueous solution obtained, either magnesia, alumina, or the oxyde of lead; evaporate this solution to dryness, and treat the dry residue with the mixture of alcohol and ether. This menstruum takes up conia, which, by a new evaporation to dryness, is left in a pure state.

Half a grain is sufficient to kill a rabbit. The symptoms induced by it are analogous to those produced by strychnine. After death, the vessels of the head, the right auricle of the heart, the superior vena cava, and the jugular, are very much gorged with blood, while the abdominal vessels appear to be completely empty. The leaves and fruit yield their active properties to water, alcohol, oil, and fats.

Properties.—This is a powerful acrid narcotic and resolvent. It is not dangerous in very small doses, often repeated, and gradually increased. It is also anodyne, sedative, and anti-spasmodic, useful to allay pain in acute diseases. In scrofulous tumors it is a useful article. We, however, seldom use it as an internal remedy. It enters into our *Discutient Ointment*. It is very highly spoken of by Drs. Fisher, Jackson, and Bigelow, in the treatment of jaundice: their mode of administering it is, to commence with small doses, and increase them gradually, until the effects of them are felt in the head and stomach. "This inconvenience," says Dr. Bigelow, "is temporary, and will be preferred by most patients to the evils of a mercurial ptyalism [salivation]." The yellowness of the skin and eyes, in favorable cases, begins to disappear at an early period, frequently by the second day. As a poultice in inflammation and abscess in the breasts of women, and in all cases where resolvent poultices may be required, it is a valuable article.

I take two ounces of the leaves, simmered in spirits, and apply it twice a day to the affected parts; and am now discussing an exceedingly hard tumor of the breast in this manner, with every prospect of decided success, as it is greatly diminished, and the pain removed.

I notice a case in the St. Louis hospital, Paris, of a very obstinate scrofulous tumor in the course of cure by the use of the following preparation: extract of cicuta, one part; iodide of lead, eight parts; lard, thirty parts; rubbed together in a mortar, and applied morning and night as a salve.

Employment.—Internally, of the powdered leaves, two grains to one scruple, in pills; of the extract, three to five grains, gradually increasing the doses. Externally, fomentation: hemlock one ounce, boiling water two and a half pounds. Plaster: hemlock, wax, and resin, each two parts; olive-oil one part; melt and spread on leather. This is a valuable plaster to discuss some indolent tumors. In the form of extract, and made into pills, half the size of a small pea, given twice a day, it is good to discuss scrofulous and cancerous tumors of the breast; applying it at the same as a plaster externally.

Incompatibles.—Caustic alkalies, and vegetable acids and astringents.

GENUS CORIANDRUM.—Seeds convex externally; ribs 5, small, a little prominent; germ sub-globose; perianth 5-toothed; petals cordate-inflexed, outer ones largest; involucre 1-leaved, or wanting.

NO. 77.—CORIANDER.

C. SATIVUM.—Fruit globose; calyx and style permanent.

Description.—This is an annual plant, a native of Italy and the East. but has become naturalized in England, and is now extensively cultivated in this country. It flowers in June and July. The fruit is round, about the size of white pepper, finely ribbed, and of a brownish-yellow color. When ripe it has an agreeable aromatic odor, and a warm, peculiar taste. Its properties depend on a volatile oil.

Properties.—The seeds are carminative and stomachic, and agree in all

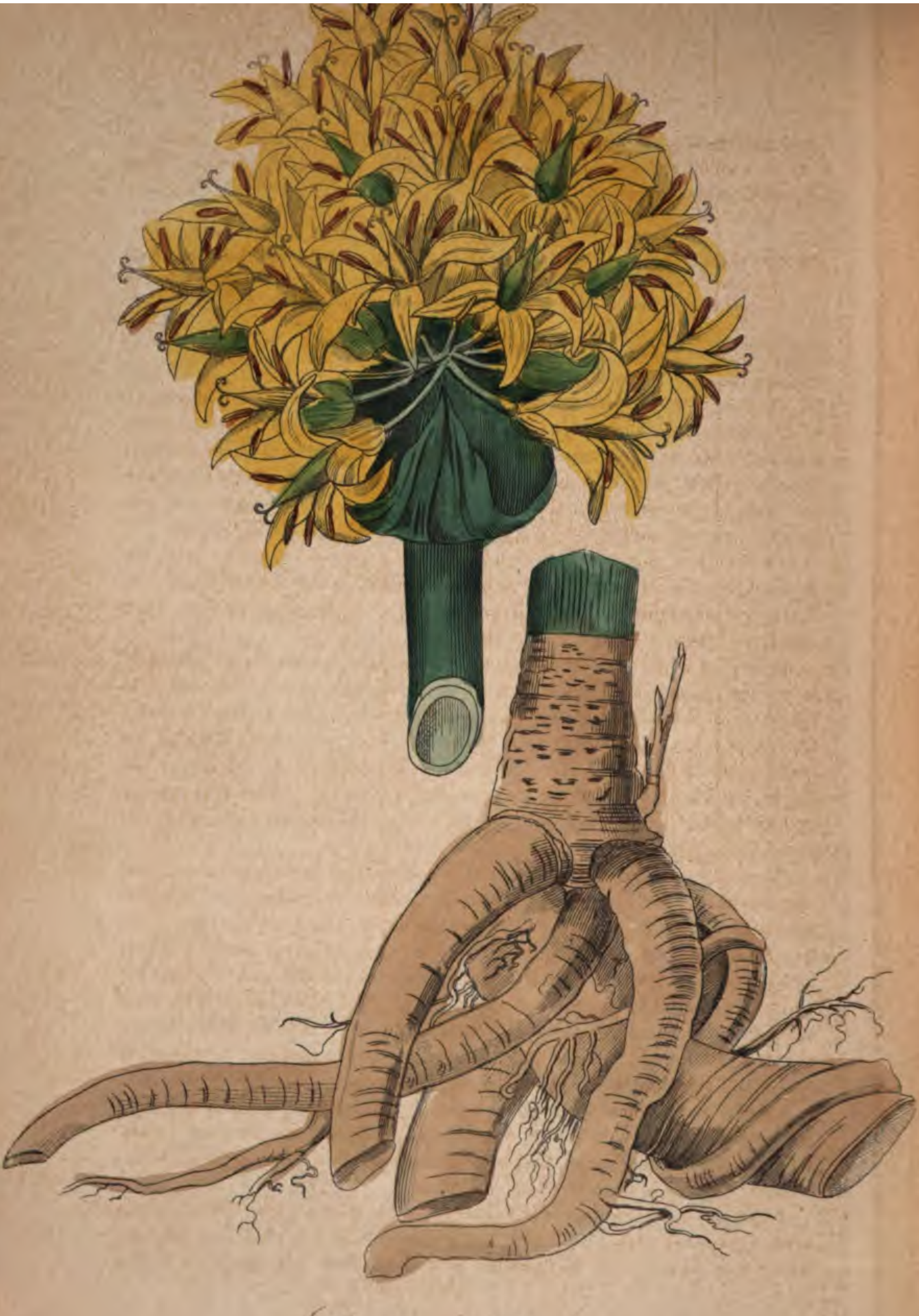
Description.—This plant is a native of Persia and the East, growing in the mountainous parts. The leaves spring immediately from the root, and are six or seven in number, nearly two feet long, of a deep-green color and strong smell. The stem is herbaceous, and rises from six to nine feet in height, bearing pale-yellow flowers in umbels of from twelve to twenty rays; involucrum caducous; involucellum polyphyllous; flowers elliptical, compressed, of a reddish-brown color.

Asafœtida comes to us in agglutinated masses, more or less voluminous, of a brown or fallow color, intermixed with white or violet points; becoming easily soft with a gentle heat; of a penetrating smell, and remarkable for its fetidity; of an acrid, bitter, and sharp taste. According to Mr. Pelletier, it is composed of resin, 0·66; volatile oil, 3·60; gum, 19·44; bassorin, 11·66; super-malate of lime, 0·30. It is soluble in alcohol, ether, vinegar, the yolk of eggs, and in part only by water: triturated with this menstruum, it forms a sort of permanent emulsion; with one twelfth of camphor, it produces a plastic mass, and is easily reduced to powder with carbonate of ammonia, without undergoing any alteration in its nature.

Properties.—Moderately stimulant, powerfully anti-spasmodic, and an expectorant and laxative. It is very useful in many nervous diseases, especially in hysteria and flatulent colic; and is extremely efficacious in spasmodic asthma, in which disease it should be given in large doses, of from ten to fifteen grains of the gum, made into pills, and repeated three or four times a day. The above dose may be safely increased, until the desired effect is produced.

Asafœtida being laxative, it is also very suitable in diseases of the stomach and bowels, particularly in hypochondriasis, as costiveness is apt to be very troublesome in this disease. Richter, in speaking of this article, thinks it entitled to be regarded almost as a specific in correcting the morbid condition of the stomach which generates acidity, if combined with the gall of an ox, equal parts of each. It enters into the *Hysteric Pills* of our pharmacopœia. Its action is quick and penetrating, affording great relief in all spasmodic, flatulent, and nervous affections, especially when they arise from an obstruction of the bowels.

Dr. Wolcott cured a case of spasmodic asthma, of nine years' standing, which had resisted the treatment prescribed by other practitioners, by administering asafœtida in the form of a pill or bolus, 10 grains three times a day; also the following expectorant: squills in powder, 30 grains; gum-ammoniac, one and a half drams; extract of cicuta, 30 grains; made into 30 pills—of which the patient took one or two every six hours, until a slight giddiness was felt, and smoked stramonium-leaves and tobacco. It has been employed with much advantage in the spasmodic stage of hooping-cough, and in that peculiar spasmodic difficulty of breathing so frequently the attendant of chronic catarrh; and in the convulsions of children, and the flatulent constipations of the aged, few remedies are more efficacious.



Gentiana Lutea.

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Employment.—In powder, it may be given in doses of from 10 grains to half an ounce; about the same quantity in pills. Dose of the tincture, from one half to two drams.

GENUS GENTIANA.—Calyx 4 or 5 cleft; corol with a tubular base, bell-form, without pores, 4 or 5 cleft; stigmas 2, sub-sessile; capsule 1-celled, oblong; columellas 2, longitudinal; stamens but 4, when the divisions of the corol are 4.

NO. 82.—GENTIAN.

Common Names.—Yellow Gentian, &c.

G. LUTEA.—Leaves broad-ovate, nerved; corols about 5-cleft, wheel-form, whorled.

Description.—Root perpendicular, branched; stem erect, two or three feet high; leaves amplexicaule, oval, of a light green, five or seven nerved; flowers yellow, spicate; corolla regular, rosaceous; stamens alternate with the lobes of the corolla; anthers erect; two stigmas; no styles; ovary and capsule fusiform, unilocular; fruit flat, and membranous on the edges.

Gentian is a perennial plant, indigenous to Europe, growing upon the Alps, Apennines, Pyrenees, and other mountains, in the temperate parts of Europe. According to Eaton, it may be found in the states of New York and New Jersey. It blossoms in May.

According to Henry and Caventou, it contains a peculiar bitter principle, which they have called GENTIANIN, an oleo-resinous matter, very similar to bird-lime, a greenish oil, uncrystallizable sugar, some gum, a yellow coloring matter, and, finally, some lignin. Water, alcohol, and ether, dissolve the active parts of this root. The gentian-root is elongated, of the size of the finger, wrinkled, twisted, brown externally, of a lively yellow and spongy texture internally, of a slightly nauseous smell, and of a very bitter taste, but devoid of astringency.

Properties.—The root of this plant has been used from time immemorial as a valuable, pure, bitter tonic, proper in all cases of debility; and in weakness of the digestive organs, it increases the appetite, and prevents the acidification of the food. In dyspepsia this article has obtained much celebrity, and not without foundation. It enters into almost all the nostrums that are vended at present for the cure of this disease. It is administered with good effect in some cases of gout and jaundice, caused by debility of the biliary organs; in chlorosis, hysteria, &c. It is best given in conjunction with other tonics and astringents, which appear to increase its value; and in this form it is useful in the debility attendant upon chronic diseases. It may be administered with good effect in intermittents, in hectic and nervous fevers, inflammation of the lungs, &c., having the operation of a sudorific tonic. The *G. catesbei* is considered its equivalent.

Employment.—Compound infusion of gentian: gentian-root, half an ounce; orange-peel, one dram; coriander, half a dram; diluted alcohol, four ounces; water, one pound. Of the powder, as a dose, from one scruple to half a dram, which is best infused in wine with some proper aromatic. The simple powder is seldom administered.

Incompatibles.—Solution of diacetate of lead, nitrate of silver, sulphate of iron, and analogous salts.

NO. 83.—SAMSON SNAKE-ROOT.

Common Names.—Blue Gentian, Southern Gentian, Flux-root, &c.

G. CATESBEI.—Stem rough; leaves opposite, sessile, ovate-lanceolate, subtrinerve, acute: flowers capitate; calicinal segments longer than the tube; corolla tubular, ventricose, plaited, with 10 teeth: 5 alterne larger acute, 5 smaller bifid.

Description.—Root perennial, yellowish, branching, fleshy; stem simple, erect, cylindric, rough, one or two feet high; leaves remote, opposite, decussate, ovate or lanceolate, entire, slightly trinerve, acute, rough in the margin; flowers sub-sessile in a crowded terminal head, of six to twelve, surrounded by an involucrum of four leaves and some lanceolate bracts, often some axillary flowers below the head; calyx with segments longer than the base, linear-lanceolate, unequal, acute; corolla large, two inches long, of a fine azure blue; base short, tubular; limb large, plaited, swelled, tubular, open at the top; border 10-cleft: five smaller lobes alternating with the others, but opposite to the calicinal and stamina, bifid, acute, ciliate; the five larger lobes rounded, acute, entire; five stamina shorter than the corolla, with subulate filaments and sagittate anthers; germen oblong-lanceolate, compressed, stipitate; style very short, two oblong reflexed stigmas; capsule oblong, acute at both ends, 1-celled, 2-valved, many small seeds inserted on the valves, or a longitudinal placenta on each valve.

It grows from Carolina to Alabama and western Kentucky, in glades and open plains. This species was long considered as a variety of the *G. saponaria* of the northern states, but distinguished by Walter and Elliott, and named after Catesby. It has lately also been confounded with the *G. ochroleuca.*

Properties.—It is one of our best native medical gentians. In dyspepsia and other cases of stomachic and general debility, it may be employed with advantage, and will be found little inferior to the European gentian as a bitter tonic, proper in pneumonia and dyspepsia. It has also been found of extraordinary efficacy in affections of the bowels, severe diarrhœa, and fluxes of an alarming character. The properties of this plant deserve attention, and its qualities should be more generally investigated and better understood; yet it is regarded as similar in properties to the *G. lutea*, and quite an equivalent.

Employment.—The whole plant, root and tops, has been used in infusion with chamomile-flowers, adding a little French brandy, and taken in doses of a tablespoonful, gradually increasing as the stomach and system will bear. Not often administered in powder—the dose of which would be from 10 to 30 grains.

NO. 84.—BITTER PLANTAIN.

G. QUINQUEFLORA.—Stem 4-cornered, branching; leaves half clasping, oval, acute, 3-nerved; flowers 5-cleft, bell-tubular, with a glabrous throat, terminal and lateral, in threes or fives, sub-pedicelled; divisions lanceolate, acuminate; calyx short.

This plant is regarded as nearly an equivalent of the *Samson snake-root*, in the same diseases, administered in a similar manner. Its properties deserve further investigation, and I am pleased to find it now regularly kept in the botanic shops, to meet a growing demand.

GENUS HERACLIUM.—Seeds with winged margins, and three ribs on the back, obtuse, and three grooves on their outer sides, with the intervals dotted half way down; joining sides flat, with two dots; germ oval, emarginate at the apex; petals emarginate, inflexed; general involucre none, partial involucre 3–7 leaved; flowers somewhat radiated.

NO. 85.—MASTERWORT.

Common Names.—Cow-Parsnep, &c.

H. LANATUM.—Petioles and nerves of the leaves very villose beneath; leaflets petioled, broad, round-cordate, sub-palmate-lobed; seed orbicular.

Description.—This is found from Canada to Pennsylvania, and flowers in June. It grows from three to five feet in height, often an inch in diameter; the stalk striated and round; flowers white and umbelliferous, and loves a high, rich soil.

Properties.—The root is a warm, aromatic, stimulant-carminative, salivant, expectorant, and laxative. Bigelow pronounces it poisonous. It promotes expectoration, and has been found useful in colic, flatulent disorders of the bowels, asthma, colds, disorders of the brain, catarrh, epilepsy, and ague; and it is good to promote the menstrual discharges. Dr. Orm, of Salem, used it successfully in epilepsy, attended with flatulent symptoms, and in gastric disorders.

Employment.—A dram of the powdered root may be taken at a dose two or three times a day in wine, and an infusion of the leaves or root may be taken freely at the same time, and particularly on going to bed.

GENUS HEUCHERIA.—Calyx inferior, 5-cleft; corol on the calyx; petals small; capsule 2-beaked, 2-celled, many-seeded.

NO. 86.—ALUM-ROOT.

Common Names.—Maple-leaf-alum-root, Split-rock, Cliff-weed, Ground-Maple, &c.

H. ACERIFOLIA.—Petioles hirsute; leaves smooth, glaucus beneath, acutely 5-lobed, unequally toothed—teeth mucronate; scape smooth; panicle elongated, lax-flowered; petals short, stamens exsert.

Description.—The alum-root is a perennial plant, having a yellowish, horizontal, crooked root, with few fibres; radical leaves on long petioles, slender, and covered with short, stiff hairs; shaped like those of the maple-tree, base deeply and acutely cordate, circumference acutely 5-cleft, sometimes 7-cleft or even 9-cleft; segments angular, acute, unequally toothed, teeth short, rounded, mucronate; only five branched nerves; both surfaces smooth, upper green, lower glaucous; scapes round, smooth, fistulose, straight, one or two feet high. Flowers very small, forming a long panicle, occupying the upper half of the scape, cylindrical but loose; small pinnatifid or pectinated bracts at the base of the branches, which are scattered and irregularly divided with small subulate bracteoles at the lower divisions; pedicels longer than the flower; calyx with five acute teeth; petals lanceolate, flesh-colored, filaments subulate, erect, jutting out, anthers rounded; pistil bifid with two long styles, stigma obtuse; capsule with two beaks, opening inside of the beaks, with two cells formed by the involute valves; many small black seeds. It grows in the mountains, hills, cliffs, and fissures of rocks in Kentucky, Tennessee, western Virginia, and Pennsylvania, Ohio, Maryland, &c.

Properties.—The root is a powerful astringent styptic, antiseptic, vulnerary, and detergent, probably equal to *Geranium maculatum* and *Spirea tomentosa*. It was used by the Indians, and is still used in Kentucky and the Allegany mountains, in powder, as an external remedy in sores, wounds, ulcers, and even cancers; it is one of the bases of the cancer-powders of empirics, united to *Orobanche*, *Hydrastis*, &c. It is employed as a styptic in internal and external hemorrhage, bleeding of the nose, foul or indolent ulcers, wounds, and cuts. It is seldom taken internally, the taste being so intensely astringent; but it promises to be useful, even in very small doses, whenever astringents are indicated. Coxe says that the alum-root has been sold for the *Colchicum*, to which it bears no resemblance in form or properties. Dr. Comings, of Georgia, pronounces it an excellent ingredient in astringent compounds.

Employment.—The finely-powdered root is applied externally as a styptic, and to ulcers and sores in a state of discharge; also, mixed with lard, it forms a good ointment for the piles.

GENUS LIGUSTICUM.—Seeds with five acute ribs, and four intervening grooves; germ oblong, corticate; general and partial involucres many-leaved.

NO. 87.—LOVAGE.

Common Names.—Smellage, Lavose, &c.

L. LEVISTICUM.—Leaves long, numerous; leaflets above gashed.

Description.—This is an umbelliferous plant, a native of the south of Europe. It has a strong, sweet, aromatic odor, and a warm, pungent taste. The seeds are small, ovate-oblong, somewhat flattened, curved, strongly ribbed, and of a yellowish-brown color.

Properties.—Stimulant-aromatic, carminative, diaphoretic, and emmenagogue. The medical properties are very similar to those of the angelica. It is esteemed very efficacious in hysteria and nervous affections, and to promote eruptions.

Employment.—The root, stem, and leaves, have been employed, but the seeds have all the properties of the plant in the most concentrated form, and are preferable in exhibition. They may be given in powder or infusion, without much nicety regarding doses.

GENUS PANAX.—Calyx superior, 5-toothed; corolla of 5 petals; stamens 5; styles 2; berry 2-seeded; some flowers only staminate, or with one or three styles and seeds.

NO. 88.—GINSENG.

Common Names.—American Ginseng, Ginseng-root, Ninsin, Garantogen, Red-berry, Five-fingers, Gensang, &c.

P. QUINQUEFOLIUM.—Root fusiform, wrinkled; stem with three verticillate leaves, digitate with five unequal petiolate folioles; umbel central, pedunculate. Many varieties.

Description.—This plant is the famous ginseng of the Chinese, whose name, signifying *man's health*, has been adopted in English and French. The Mantchou Tartars call it *Orhota*, meaning *queen of plants*. The Jesuits, who had known this plant in Tartary, found it afterward in Canada, about 1718, and a profitable trade was begun with China, which has since undergone many fluctuations. The American ginseng has a similar form, taste, and smell, to that found in Tartary: it must therefore possess nearly the same properties, although in an inferior degree perhaps. Our Indian tribes employed them: we may thus avail ourselves of them, and their cheapness ought not to make them the less available, as probably larger doses will answer all the indications. The Huron tribes call this root *Garantogen*, signifying *root like a man*. It is scattered all over the northern and western states, from Canada to Missouri and Alabama; also in the Allegany mountains as far as Carolina. The stem and leaves are useful; but the berries are of no use, and not even edible. The blossoms appear in the spring, and the berries are ripe in the summer; they require two years to germinate. The roots have a pleasant camphorated smell; the taste is sweet and pungent, with a slight degree of aromatic bitterness.

Properties.—They are a fine, gentle, and agreeable stimulant, both fresh and dry; also nervine, cordial, restorative, analeptic, demulcent, edulcorant, expectorant, stomachic, attenuant, deobstruent, &c. They owe their active properties to a peculiar substance, very similar to camphor, which Rafinesque called PANACINE, white, pungent, soluble in alcohol and water, and more fixed than camphor; they contain also a volatile oil, sugar, mucilage, and resin.

Employment.—Our American ginseng is so mild, that it may be used in doses as large as an ounce. Drs. Cutler and Greenway found it useful, even in small doses of from ten to twenty grains, in convulsions, vertigoes, nervous affections, palsy, and even dysentery. The leaves form a very grateful medical tea, which is reserved for the noble and wealthy in China; ours make equally good tea, and are sometimes used in Canada, Kentucky, and Virginia. Dr. Hales, of Troy, found the roots and leaves a good analeptic and restorative in fevers. Some Indians have a notion that it makes women fruitful.

The root, tinctured in old Jamaica spirits, may be taken three times a day on an empty stomach. It will be found useful in gravel, in all debilitated habits, in weaknesses from excessive venery, and pain in the bones from colds; and it is also an excellent restorative medicine, strengthening the stomach, invigorating the system, and improving the appetite. The decoction may be used in doses of a teacupful several times a day, as a nervine or tonic; or the powdered root in teaspoonful doses.

GENUS PIMPINELLA.—Flowers tubulous, all fertile; petals cordate, incurved; seeds striate, ovate, oblong; stigma sub-globular.

NO. 89.—ANISE.

P. ANISUM.—Radical leaves trifid and cut; stem striate; cauline leaves in narrow, pinnate segments.

Description.—Stem herbaceous, ramose, one foot high; radical leaves petiolate, round, and dentate; the cauline leaves gashed into narrow and linear segments; flowers white, without involucrum or involucellum; petals equal, cordiform; stamina longer than the petals; anthers round, globular; fruit ovoid, slightly pubescent. This is an annual plant, a native of the Levant, and cultivated in both Europe and America. Seeds greenish, ovoid, lunated, striate longitudinally; of a warm, aromatic, and sweet taste, and of an agreeable smell. Their shell contains a white essential oil, congealing at 10° Centig. (50° Fahr.), and does not again become fluid under 62° Fahr. Its active principles are soluble in water, and principally in alcohol.

Properties.—The properties of this plant are somewhat similar to those of fennel. The seeds are carminative and pectoral. They are useful in dyspepsia, and flatulent affections incident to children. The oil imparts a pleasant flavor to liquors, and promotes a discharge from the lungs. It enters into the *Cough Drops* of our pharmacopœia. The seed is employed in flatulent colic and in the diarrhœa of infants and children. It is said also to promote the secretion of milk in nurses. The oil is imported in large quantities from England, Germany, and the East Indies.

Employment.—The seeds may be given, but the oil dropped on sugar is preferable. The dose of the bruised seed in substance is from 10 grains to half an ounce; and it is often administered in this way, in Europe, in flatulencies and colics. From four to eight drops is the dose on sugar. I have known one very obstinate case of chronic cough cured by this alone. For flatulence, an infusion of the seeds may be given.

Adulterations.—The oil of star-anise (*Illicium anisatum*) is often sold for it, as it resembles it in odor and appearance; but this may readily be detected, as star-anise oil retains its fluidity at 35° Fahr.

GENUS SANICULA.—Seeds hispid, with hooked prickles; calyx 5-parted, permanent; umbel sub-simple, capitate; involucre few-flowered.

NO. 90.—SANICLE.

Common Names.—Black Sanicle, Black Snake-root, &c.

S. MARYLANDICA.—Leaves digitate; leaflets oblong, gashed; part of the flowers are fertile, sessile, and sub-ternate; the others are barren, pedicelled, and the most numerous.

Description.—This indigenous plant grows on oak-timbered land, alluvial soils in the forest, and in uncultivated fields. It grows from two to three feet in height, leaves roundish, deeply serrated, of a dark-green color, and mostly on one side of the stalk. The blossoms are white, appear in June, and are succeeded by a small burr on the top of the stalk. The root consists of a number of small black fibres, quite pungent and aromatic to the taste, and, if chewed long, it will render salt tasteless.

Properties.—Anodyne, expectorant, stimulating, sudorific, and tonic. The whole plant is useful in fluor-albus, gonorrhœa, syphilis, and dysentery; and in malignant and protracted fevers it quiets nervous irritability, and facilitates a healthy action.

Employment.—A decoction of the root or whole plant is used. The root in poultice forms an excellent external application for snake-bites and other poisoned and angry wounds.

GENUS ULMUS.—Calyx bell-form, withering; border 4-5 cleft; seed 1, enclosed in a flat membranaceous samara; stamens vary from 4 to 8.

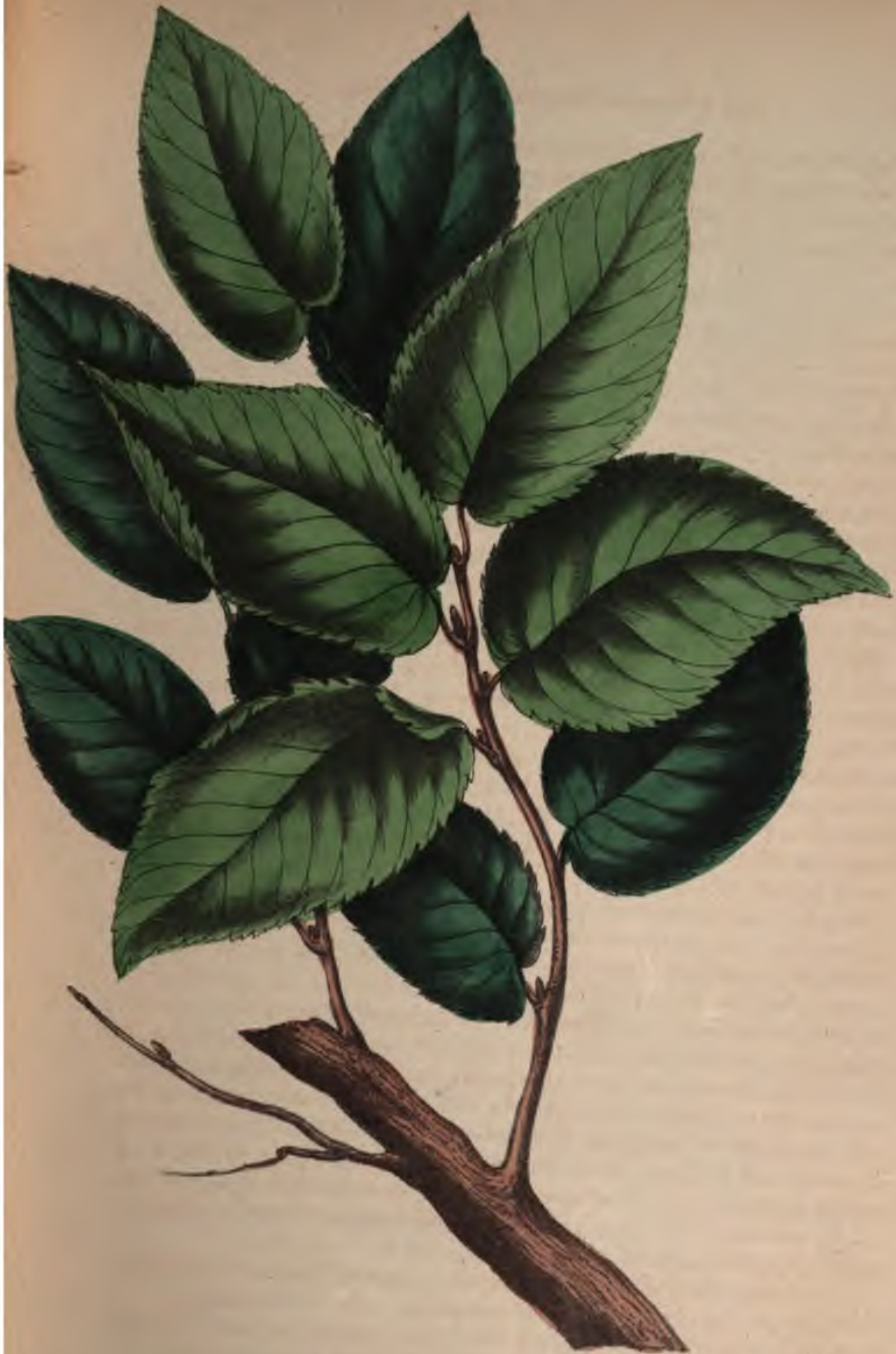
NO. 91.—WA-A-HOO.

U. ALATA.—Branches on each side winged, with a cork-like back; leaves oblong-oval, acute, nearly equal at the base; fruit pubescent, ciliate.

Synonym.—*U. pumila*, Wr.

Description.—This is a shrub growing in bushy places on rich intervales, by the side of streams, and in swamps. It rises from six to twelve feet in height, has light-colored bark, and is extensively known and often sought as a remedy in affections of the lungs.

Properties.—Emetic, cathartic, and expectorant. In combination with other agents it is useful in nervous debility and affections of the lungs. It is too powerful and prostrating to be used alone, except in small doses. Dr. Pardon Lapham, of this city, informs me that he has found it the most efficient article he ever used for habitual constipation. He gives teaspoonful doses of the powder at night, in this disease, with complete success.



Ulmus Fulva.

GENUS URASPURMUM.—Seeds sub-linear, solid, acute-angled, not striate; ribs 5, acute; angles a little furrowed, hispid; the joining sides furrowed, and attached to a 2-cleft, columella-like receptacle; style subulate, permanent, rendering the seed caudate; involucre none or few-leaved; fruit stiped, oblanceolate, polished, part of it hispid.

Synonyms.—Scandix, Myrrhis, Chærophyllum, Osmorhiza.

NO. 93.—SWEET CICELY.

U. CLAYTONI.—Leaves compound, hairy; leaflets gash-toothed; umbels axillary and terminal, about 5-rayed; style as long as the villose germ, filiform, erect, deflected.

Synonyms.—M. dulcis; O. longistylis-brevistylus; S. dulcis, M.

Description.—This plant grows from two to three feet in height, leaves small, numerous, and on long stalks; flowers small, and of a pale-white color. It grows plentifully on the sides of low meadows, on the banks of running streams, and on the borders of low woodlands. It may be easily known by the taste of its root, which much resembles that of anise-seed.

Properties.—Carminative and expectorant. It is a very valuable root, especially as a carminative, and may be employed in all cold, flatulent, and windy complaints of the bowels, and in incipient phthisis.

Employment.—Of the root, pulverized, take half a teaspoonful in brandy for flatulencies; or combine it with other appropriate agents for coughs and pulmonary complaints.

Order III. Trigynia.—Bearing flowers with but three styles or sessile stigmas.

GENUS RHUS.—Calyx 5-parted; petals 5; berry 1-seeded, small, sub-globular.

NO. 94.—SUMACH.

Common Names.—Sleek Sumach, Upland Sumach, &c.

R. GLABRA.—Branches, petioles, and leaves, glabrous; leaves pinnate, many-paired; leaflets lance-oblong, serrate, whitish beneath; fruit silky.

Description.—This is an indigenous shrub, from six to fourteen feet high, with a stem usually much bent, knotty, and divided into numerous branches, which are covered with a smooth, light-gray bark. In autumn, the leaves change their color to red. The berries grow in dense clusters, small, and of a crimson color.

Properties.—Astringent, antiseptic, tonic, and diuretic. In form of poultices for old ulcers and badly-conditioned sores, it is an excellent application; also for gargles in sore throat and putrid fevers. In decoction it is said to be efficacious in venereal and scrofulous diseases, and is also excellent for falling of the bowels and womb. In strangury, the sumach is said to promote the discharge of urine, relieving difficulties of the kidneys, and strengthening the urinary organs. The berries and leaves are equal to nutgalls in dying or making ink.

Employment.—A decoction of the bark of the root, with slippery elm, white pine, and blood-root, taken freely, is useful in venereal disease, in gleet, cutaneous eruptions, and scrofula. The infusion of the berries, sweetened with honey, is used as a gargle: it is good for cleansing the mouth in fevers, and makes a pleasant medical drink for children. The above infusion, sweetened with loaf-sugar, has been given in the worst cases of diarrhœa, dysentery, and bowel-complaints.

NO. 95.—POISON IVY.

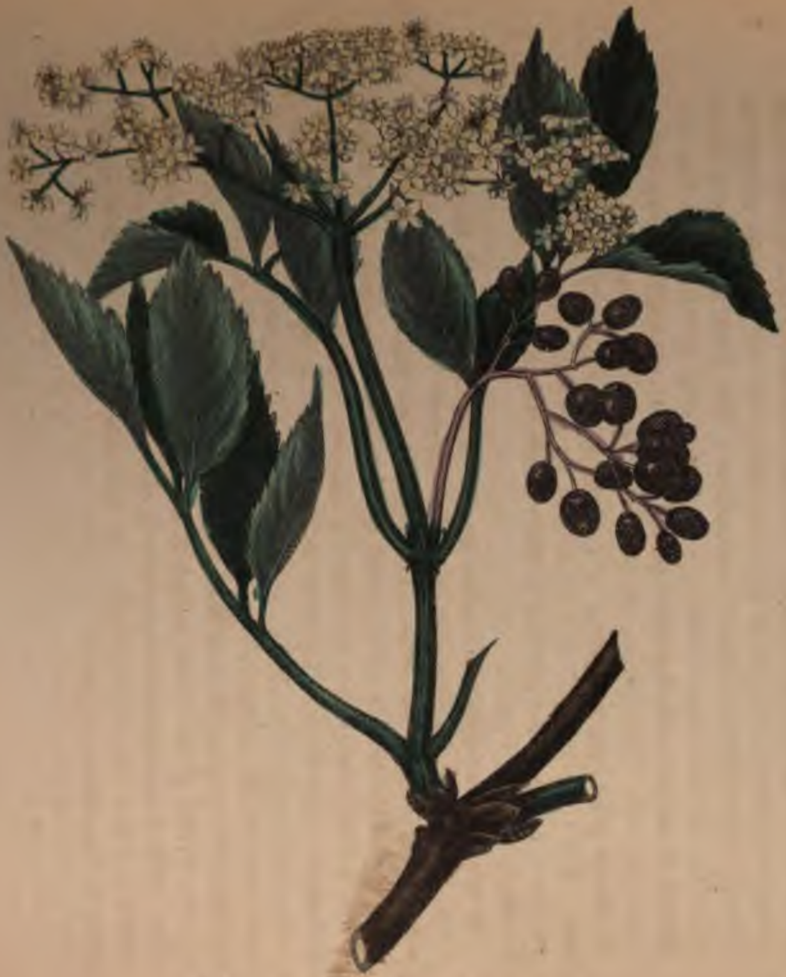
Common Names.—Poison vine, Poison Ash, Poison Oak, &c.

R. TOXICODENDRON.—Rooting; leaves ternate; leaflets oval, entire, or sinuate-crenate; racemes on the branches, and axillary, sessile, diœcious. Variations, *radicans*, *querquefolia*, and *microcarpa*.

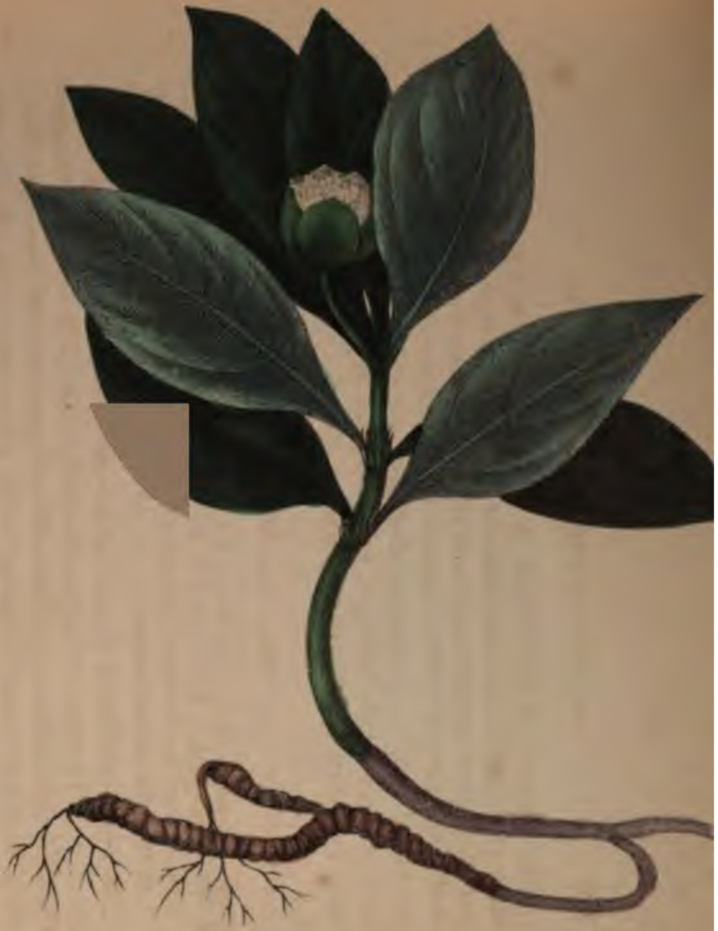
Description.—This is a kind of low creeping shrub, a native of North America. The stems, if cut, exude a milky juice, which inflames the skin. The leaves are inodorous, and have an astringent, sub-acrid taste when fresh, which they nearly lose in drying. The active part of the plant is very volatile.

Properties.—The fresh juice of the poison ivy is powerfully irritant. It produces in some persons blistering of the skin where it is applied, with much symptomatic fever; and even the emanations from the plant are alleged to have the same effect on certain constitutions. The juice and leaves, taken internally, are narcotico-irritant in large doses; and in small doses they are held to be diuretic, diaphoretic, laxative, and, in respect to the nervous system, stimulant. The leaves have been used in various diseases, but chiefly in chronic palsy, on account of their stimulating action on the nervous system. Their therapeutic effect is said to be attended with twitches of the paralyzed muscles, and pricking of the affected limb, like those produced by strychnia and nux vomica.

It was first brought into notice by Dr. Alderson, of Hull, England, in 1794, as a remedy in paralysis; but since his time, it again fell into disrepute, and deservedly so, as an internal agent. To Hahnemann we owe the discovery of the efficacy of this plant against the consequences of muscular strains and injuries of that character; it displays its best action in those circumstances, and also in injuries of the joints, tendons, ligaments, and of the periosteum and perichondrium, or membranes investing the bones and cartilages, and should in such cases always follow arnica. In many instances, indeed, it has proved of itself sufficient. The tincture is prepared from the expressed juice of the leaves, mixed with an equal part of rectified spirits of wine. The homœopathists also use it in various diseases compounded with arnica, and they speak of it highly. It has sometimes likewise been found useful in herpetic eruptions.



Sambucus Canadensis.
96



Ipecacuanha
41

GENUS SAMBUCUS.—Calyx 5-parted or 5-cleft, small; corol sub-urceolate or sub-rotate, 5-cleft; stigma minute, sessile; berry globose, 1-celled, 3-seeded.

NO. 96.—COMMON ELDER.

Common Names.—Black-berried Elder, Sweet Elder, &c.

S. CANADENSIS.—Branchlets and petioles glabrous; leaflets about in four pairs, oblong-oval, glabrous, shining, acuminate; cyme lax, divided into about five parts.

Description.—The elder is a very common shrub, growing all over the United States, along side of fences, and by the borders of streams. The stem is branched, and eight or ten feet high, containing a large, spongy pith. The leaves, which are arranged in pairs along opposite sides of a foot-stalk, are acutely pointed, and of a deep-shining green. The flowers are small, white, and disposed in large, flattened clusters, succeeded by berries of a deep-purple color. They bloom from May to July, and the fruit ripens in September.

Properties.—The berries contain malic acid, and have a sweetish, not unpleasant taste; but if eaten in too great a quantity, will produce nausea. Every part of this plant possesses considerable medical properties. It is laxative, diuretic, alterative, anti-herpetic, refrigerant, vulnerary, deobstruent, &c. The bark is useful in dropsy, acting as a hydragogue, and as an alterative in various chronic diseases. The flowers are excellent to purify the blood; from the bark and flowers is made a good ointment, very useful in eruptions of the skin, and they also form an excellent poultice for inflammations. A sirup made of the berries is highly esteemed by many in bowel-complaints, and a tea made of the flowers is very good to remove the herpetic affections of children, and to obviate costiveness. They are useful in the thirst, feverishness, and sore mouth, of children, and are said to cure the scurvy. They are also very useful in erysipetalous fevers.

The bark dyes black; boiled, and applied to the cheeks, it cures the toothache. In small doses it is diuretic and deobstruent, and useful in obstinate glandular obstruction and dropsies. The bark and leaves, given to sheep, will cure the rot. The rob of the berries is aperient, diuretic, and diaphoretic, and is used for coughs and costiveness. The young leaves and buds are drastic and violent in their operation, and considered unsafe; but the flowers are anodyne, pectoral, sudorific, expellent, and emollient, and are useful in erysipelas, fevers, rheumatism, gout, exanthems, &c., applied in the form of decoction, lotion, or cataplasms; also in pleurisy, chronic cough, eruptions, and bruises. They give a fine flavor to vinegar and wine. The bark of the roots may be used when the berries and flowers can not be obtained. Water and alcohol take up all the active properties of this plant very readily.

Employment.—We make a very extensive use of the elder. The flowers enter into the *Alterative Sirup;* and the bark, simmered with wine, forms the *Hydragogue Tincture,* which is given in dropsical complaints. The

Elder-berry Wine of our pharmacopœia is an excellent article, and deserves attention. The extract is a good way of administering the elder in doses of from one to five grains. The inspissated juice of the berries is often given as a diuretic with success.

GENUS VIBURNUM.—Calyx 5-parted or 5-toothed, small; corol bell-form, 5-cleft, with spreading or reflexed lobes; stigmas almost sessile; berry or drupe 1-seeded

NO. 97.—NANNY-BUSH.

Common Names.—Sheep-berry, &c.

V. LENTAGO.—Glabrous; leaves broad-ovate, acuminate, hook-serrate; petioles margined, undulate; cymes sessile.

Description.—This shrub grows from eight to fifteen feet high, all over the United States, in marshes, low pastures, and damp situations, with rich soils. The bark is very rough, and of a dark-gray color. The berries are black, hang in clusters from the end of the limbs; they are sweet and somewhat mucilaginous. The branches, when full grown, often form a fastigiate top.

Properties.—The bark of the root is an excellent tonic; it is considered an equivalent of the Peruvian bark, and quite equal to it for all the purposes to which that is applied. It is also an astringent and antiseptic; it makes a valuable wash for foul ulcers and sores, and is particularly adapted for a gargle for sore throat.

Employment.—As a tonic, take of the infusion about a spoonful at a dose; the decoction for washes, &c.

NO. 98.—HIGH CRANBERRY.

Common Names.—Cramp-bark, &c.

V. OXYCOCCUS.—Leaves 3-lobed, 3-nerved; lobes log-acuminate, with a few scattering teeth; petioles glandular, grooved above; cymes rayed.

Description.—This shrub grows in swamps and low, rich land, to the height of eight or ten feet. The leaves resemble a goose's foot; flowers white, in clusters; and the berries resembling the common cranberry, red, of a pleasant acid flavor, and grateful as a cooling beverage.

Properties.—Cramp-bark is a powerful anti-spasmodic, and possesses nervine and tonic properties. It is very effectual in relaxing cramps and spasms of all kinds.

Employment.—The bark of the root is used. A tincture may be made in wine by putting an ounce of the pulverized bark to the quart: dose, a wineglassful twice a day. A decoction answers the same purpose, and in cases of emergency may be the most convenient mode of administration.

Order V. Pentagynia.—Bearing flowers with but five styles or sessile stigmas.

GENUS ARALIA.—Umbellets involucred; perianth 5-toothed, superior; petals 5; stigmas sessile, sub-globose; berry crowned, 5-celled; cells 1-seeded.

NO. 99.—DWARF-ELDER.

Common Names.—Bristly-stem Sarsaparilla, &c.

A. HISPIDA.—Low, sub-shrubby; stem and petioles rough, with bristles; leaves doubly pinnate; leaflets ovate, gash-serrate, unarmed, glabrous; umbels with long peduncles.

Description.—This shrub grows on hemlock-timbered land, throughout the United States. A single stalk from each root, which is thickly set with short thorns or prickles near the ground, rises from eighteen to thirty inches in height, and has many branches, which terminate in a cluster of blossoms in July and August. Its berries are ripe in September. Although generally known in this country as an *elder*, this plant is not a *sambucus*—far less the *Sambucus ebulus* of Europe, known there as the dwarf-elder—although repeatedly confounded with it by our botanic medical writers: it is an *aralia*, and belongs to the spikenards.

Properties.—The root possesses powerful detergent and diuretic properties, which the bark also possesses in a milder form. It is of superior efficacy in the treatment of the various species of dropsy, particularly *ascites* and cellular dropsy, often curing almost hopeless cases.

Employment.—For common use in dropsy it should be preceded by some active hydragogue cathartic, and this may be repeated in the course of the treatment. Two ounces of the dried root may be boiled to a strong decoction, and a gill taken morning and night, or oftener if the stomach will bear it. An ounce of the inner bark and one of the roots, in decoction, may be taken in teacupful doses three times a day, which will operate powerfully as a diuretic, and is proper in suppression of the urine. The extract of the inner bark is very good in piles and dropsy; and the juice of the bark, taken in the dose of a gill, vomits and purges powerfully.

NO. 100.—AMERICAN SARSAPARILLA.

Common Names.—Small Spikenard, Wild Licorice, Wild Sarsaparilla, &c.

A. NUDICAULIS.—Hardly a proper stalk, 1-leafed; the leaf twice-ternate, or once, and quinate; leaflets oblong-oval; scape naked, shorter than the leaf; umbels few.

Description.—Root perennial, brown, yellowish, cylindrical, creeping, twisted, many feet long; stem leafless, cylindric, with three small, naked umbels at the end; leaf biternate, or with nine folioles, the lateral ones sessile, the terminal ones petiolate, all ovate, oblong, rounded at the base, end acuminate, margin serrulate, surface smooth; sometimes some folioles are coalescent; flowers from twelve to thirty in each umbel, pedunculate, small, yellowish; calyx greenish, obconical, united to the pistil, crowned with five teeth; petals five, obóval, obtuse, yellowish white; five stamina and five styles filiform; berries small, round, similar to elder-berries in size. Found from New England to the Carolinas and Indiana; delights in deep woods, shady groves, and valleys, in good soils.

Properties.—The whole plant is balsamic, fragrant, and has a warm, aromatic, sweetish taste, most unfolded in the root. The berries contain mucilage, aroma, and an essential milky oil or balsam. All the spikenards or aralias are popular medical plants throughout the United States; they made part of the materia medica of the native tribes, and are extensively used by country practitioners. They are vulnerary, pectoral, sudorific, stimulant, diaphoretic, cordial, depurative, &c.

The roots, bruised or chewed, or in poultice, are used by the Indians for all kinds of wounds and ulcers. Fomentations and cataplasms are useful for cutaneous affections, erysipelas, and ring-worms. An infusion or a decoction of the same is an efficient substitute for the Honduras sarsaparilla in all diseases of the blood, syphilitic complaints, chronic rheumatism, local pains, cardialgia, scrofula, and cutaneous affections. As a pectoral it may be used in sirups, cordials, decoctions, &c., and has been found useful in coughs, catarrhs, cachexia, languor, pains in the breast, &c. An aged physician once told me that his experience in this article had convinced him that it was equal if not superior to the foreign sarsaparilla.

Employment.—Sarsaparilla is usually combined with sassafras, guaiacum, licorice, and other substances, in decoction or sirup; but it may be taken in infusion or extract.

Adulterations.—The foreign article is often adulterated by the mixture of inferior kinds and several other roots, the stems of hops, bittersweet, &c.

Incompatibles.—Lime-water, and the acetate of lead.

NO. 101.—SPIKENARD.

Common Names.—Spignet, Petty-Morrel, &c.

A. RACEMOSA.—Spreading branches; petioles 3-parted, the partitions 3–5 leaved; leaflets often heart-form; branchlets axillary, leafy; umbels many, sub-panicled, leafless above.

Description.—This plant rises four or five feet in height; the leaves are many, small, ovate, on long foot-stalks; the main stalk of the size of the thumb, jointed, purplish; flowers inconspicuous, very small, of a bluish color, producing berries very much resembling those of the elder, of a sweet, pleasant, aromatic taste. It blossoms in July and August, and its berries are ripe in September and October. Spikenard is found from New England to the Carolinas and Indiana, but it is more common in the north than in the south; grows in deep woods and good soils. It is generally cultivated in gardens.

Properties.—The root of this plant has a balsamic, fragrant, and warm aromatic, sweetish taste. It is healing, pectoral, stimulant, cordial, and diaphoretic. This plant is much used by the Indians in all kinds of sores and ulcers. In colds, coughs, and female debility, the roots and berries may be used in sirups, cordials, and decoctions. Henry speaks very highly of the superiority of this medicine in gout of the stomach. The manner in which he prescribes this article is, by pouring a pint of brandy on a pint of the fresh berries, and let them stand by the fire for a week; then add a pint of rain-water to them. Dose, a wineglassful three times a day. Treated in the same way in Malaga wine, it is an excellent remedy for all pains in the stomach. This article enters into the *Restorative Bitters* or *Cordial* of our pharmacopœia, and also the *Pulmonary Balsam*. The spikenard may be considered an equivalent and a substitute for the *A. nudicaulis*, to be employed in the same manner.

Employment.—The roots in fomentations and cataplasms are useful in cutaneous affections and erysipelas. The infusion or decoction is efficient in diseases of the blood, syphilitic affections, chronic rheumatism, &c. The roots and berries are found a useful pectoral in sirups, cordials, and decoctions, in coughs, catarrh, cachexia, languor, pains in the chest, &c., and is recommended for the gout.

GENUS LINUM.—**Calyx 5-leaved or 5-parted, permanent; corol 5-petalled, inferior, with claws; capsule 5 or 10 valved, 10-celled; seeds solitary, ovate, compressed; filaments spreading or united at the base.**

NO. 102.—FLAX.

Common Names.—**Common Flax, Linseed, &c.**

L. USITATISSIMUM.—**Leaflets of the calyx ovate, acute, 3-nerved; petals crenate; leaves lanceolate, alternate; stem sub-solitary.**

Description.—This is an annual, exotic plant, flowering in July, and ripening its seeds in September. It is mentioned in Exodus ix. 31, as growing in Egypt. It is cultivated to a great extent in this country, and is almost too well known to need further description. The seeds are thrashed out of the plant when fully ripe, and the oil is obtained from them by pressure.

Properties.—The seed is the officinal part; they are emollient and demulcent. They afford but little nourishment, and when taken in substance into the stomach they are found to impair the functions of that organ; but in infusion they make a valuable drink for persons suffering from irritation of the fauces. The seed, ground, makes a valuable poultice, and the oil is used as a demulcent. We see it stated that the seeds, scorched slightly, and then pulverized and mixed with honey, make an invaluable demulcent for a cough.

Employment.—In infusion, sweetened with honey, it is administered with advantage in heat of urine, recent coughs, and diseases of the chest and lungs, as well as in diarrhœa, dysentery, and bronchial affections. Dose, from two to four ounces. Externally, the powdered seeds are made into poultices and cataplasms. In Paris and other cities of Europe, scarcely any others are used in the principal hospitals. The oil, with an equal quantity of lime-water, mixed by a brisk agitation, is an excellent application to recent burns and scalds, and as a component in plasters.

Incompatibles.—Preparations of lead and iron, and probably most of the metallic salts, are incompatible with infusion of linseed.

GENUS STATICE.—Calyx 1-leaved, entire, plaited, scarious, inferior; corol 5-petalled; capsule 1-seeded, valveless, covered with the permanent calyx.

NO. 103.—THRIFT.

Common Names.—Piss-bloom, American Thrift, &c.

S. ARMERIA.—Scape simple, terete, capitate; leaves linear, flat.

Description.—This is a plant common in the southern portions of this country, growing upon the seashore. It is a perennial, rising about twelve inches in height, and bearing a red blossom.

Properties.—An active diuretic. In Germany this is a well-known plant, called *Piss-blume*, and considered a medicine of much value. The German physicians of this country also esteem it highly, and make much use of it in dropsy, and in all cases where active diuretics are indicated. It has latterly come into notice in England.

Employment.—The tops and flowers, made into infusion, with some aromatic, as cinnamon or anise, is drank freely in dropsy, &c.

NO. 104.—MARSH-ROSEMARY.

Common Names.—Sea-Lavender, Seaside-Thrift, Ink-root, &c.

S. LIMONIUM.—Scape terete; panicle much branched; leaves lance-obovate, obtuse, mucronate, glabrous.

Synonym.—*S. caroliniana.*

Description.—Root perennial, large, fleshy, fusiform or branched, premose or obtuse, purplish brown, growing in salt marshes along our seacoast; radical leaves erect on long petioles, cuneiform, very smooth, with only one nerve, end broader obtuse, but with an acute point, quite entire and flat on the margin; scapes round, smooth, one or two feet high, loosely panicled above, branches alternate, ramules unilateral, pointing upward; flowers the same at the ends of the ramules, small, sub-sessile, each axillary to an ovate mucronate scaly bract, commonly germinate, upon a short, scaly, and forked peduncle; calyx funnel-shaped, 5-angled, 5-toothed, angles ciliate; petals blue, spatulate-obtuse; pistil small, obovate, five styles shorter than the stamens; seeds oblong.

Properties.—The root is tonic, and is one of the most powerful vegetable astringents and styptics that we have, even stronger than *Geranium maculatum* and kino, and in most cases in medicine are to be preferred to them; they are equal to galls, since an equal quantity of both makes ink equally black. It contains tannin, gallic acid, extractive, muriate of soda, &c. Water and alcohol are both solvents of it, but the last is even stronger, and the cold infusion more powerful than the hot. The roots are kept in shops: they are chiefly used in aphtha, ulcers of the mouth and throat, debility, hemorrhage, cynanche maligna, relaxed bowels, cholera infantum, chronic dysentery, &c., in which they are eminently beneficial, being also antiseptic. It often avails in important emergencies when other astringents and tonics totally fail. It is a kind of specific as a gargle, with a little capsicum, in ulcerous sore throat (*Scarlatina anginosa*). In dysentery, it must be given after purgatives. It has been employed also in a wash or injections in gonorrhœa, gleets, the whites, and immoderate flow of the menses. For internal use, the decoction, infusion, or sirup, may be employed in small, repeated doses. The taste is very styptic, and somewhat bitter; it may be made more palatable by some aromatics.

These useful properties are well attested and admitted by all physicians. The decoction forms one of the very best injections in leucorrhœa and prolapsus uteri, and in all cases in which astringents are indicated, when inflammation is not present. As a general astringent, the marsh-rosemary will as rarely disappoint the physician as any other in the whole materia medica. Dr. Mott, of our city, informs us that in chronic stages of dysentery, after the inflammatory diathesis, great tenesmus, &c., are removed, a strong decoction of this root has restored the patient to health, after various tonics and astringents had been used to no effect. It is held in high estimation in the putrid sore throat accompanying scarlet fever.

Employment.—Usually administered in decoction, with milk, and sweetened; an ounce of the root to a pint of milk: dose a tablespoonful every hour in bad cases. The following tincture has been recommended: marsh-rosemary, two ounces; cinnamon-bark, half an ounce; brandy, one pint. Dose, one to three teaspoonfuls. The powder, sprinkled on ill-conditioned sores, has a good effect upon them.

Class VI. Hexandria.—Bearing flowers with but six stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS ACORUS.—Receptacle spadix-like, cylindric, covered with florets; calyx 6-parted, naked; corol none; style none; stigma a mere point; capsule 3-celled, 3-seeded.

NO. 106.—SWEET-FLAG.

Common Names.—Flag-root, Sweet-rush, Myrtle-Flag, Calamus, &c.

A. CALAMUS.—Spike protruding from the side of a sword-form, leaf-like scape; root strongly aromatic.

Description.—It grows naturally in shallow waters, flowering in June, and is a native of Europe and America. It is remarkable that this plant is unknown in Scotland; but it is very common in this country, and grows in profusion. Sweet-flag root is composed of soft resin, extractive, gum, inulin, a trace of volatile oil, some salts, and woody fibre. It yields its properties to alcohol and to water.

Properties.—The roots are used in medicine, and are aromatic, stomachic, corroborant, and carminative. The infusion is useful in disorders of the stomach, flatulency, vertigo, colic, dyspepsia, &c., and in intermittents it has cured when the Peruvian bark has failed. It is notorious in this country that in domestic practice a free use of the tincture is beneficial in ague, and in hot decoction for that distressing complaint known by the name of *wind-colic*. It may be used as an adjunct to tonics in debility of the digestive organs.

Employment.—Six drams of the bruised root to twelve ounces of boiling water forms an excellent infusion, which will be found an efficacious stomachic; "and a pity it is," says one author, "that a medicine growing in our own country should give place to exotic remedies of less value: for it is successfully used in intermittents, even after the bark has failed, and is certainly a very useful addition to the cinchona." In this form it quickly relieves the distressing swelling of the abdomen. The root is chewed by dyspeptics, and the juice swallowed when tonics are required. The dose in substance is from a scruple to a dram, and of the extract half a dram.

Incompatibles.—Acetate of lead.

GENUS ALETRIS.—Corol superior, funnel-form, wrinkled, somewhat 6-cleft, with the stamens inserted at the base of its divisions; style 3-sided, 3-partible; capsule 3-celled, many-seeded, half inferior, opening at the summit when mature.

NO. 106.—BLAZING STAR.

Common Names.—Devil's-bit, False Aloe, False Star-grass, Unicorn-root, Mealy Starwort, &c.

A. FARINOSA.—Stemless; leaves linear-lanceolate, withering at the tips; scape with alternate pedicelled, farinaceous flowers.

Description.—This plant is an indigenous perennial, growing in open fields and poor soils all over the United States, having from six to twelve leaves springing directly from the root, of unequal lengths, and spreading on the ground in the form of a star; the stem rises from one to two feet high, and terminates in a long, slender, scattered spike of small white flowers, which make their appearance in June or July. The root is small, crooked, nearly black outside, brown inside, and of a very bitter taste, resembling aloes and quassia.

Properties.—The medical properties of this article are those of a powerful tonic, stomachic, and repercussive. It is employed by many country physicians and Indian doctors, and highly valued. But small doses only must be used, because large ones produce nausea, dizziness, and unpleasant effects; twelve grains of the powdered root is the largest dose that should be given alone: small doses invigorate the appetite. It is preferable to, and may be substituted for quassia either in powder, tincture, or cordial. The root contains an intensely bitter, emulsive resin, somewhat similar to aloes, but less cathartic, soluble in alcohol, and partially in water. The tincture is rendered milky by water. The resin is therefore different from amarine and aloine, and is perhaps a peculiar compound (ALETRINE) formed by amarine, an oil, and a gum.

In dyspepsia, or indigestion arising from or connected with debility of the stomach, give five or six grain doses of the powdered root three times a day. In chlorosis, in amenorrhœa, attended with a relaxed, debilitated state of the system, it is one of our best vegetable tonics. In short, in most cases of local or general debility, where a powerful tonic medication is indicated, it will as rarely disappoint the practitioner as any other article of its class. In doses of fifteen or twenty grains, or a small teaspoonful, with the addition of three or four grains of capsicum, it is almost a specific in flatulent colic. An Indian doctor once informed me that he had prescribed this article with success for pain in the breast: it may be given in wine, infusion, or spirits, in such doses as the stomach will bear. It has also been used with success in intermittent fevers attended with dropsical swellings.

Employment.—As a tonic, the dose may be varied from four to fifteen grains. A wine tincture is a good form of administering it, combined with capsicum and orange-peel, in small doses. The tincture is better compounded with golden seal, prickly ash, and Seneka snake-root.

GENUS ALLIUM.—Spathe many-flowered; corol inferior, 6-parted, very deeply divided; divisions ovate, spreading; capsules 3-celled, 3-valved, many-seeded; flowers in close umbels.

NO. 107.—ONION.

Common Names.—Garden Onion, Common Onion, &c.

A. CEPA.—Scape naked, swelling toward the base, longer than the terete leaves.

Description.—This is an exotic, perennial plant, cultivated in gardens from time immemorial, and is too well known to require further description.

Properties.—The onion is stimulant, diuretic, expectorant, and rubefacient. The root is occasionally given in dropsy and calculous disorders, and, roasted and split, it makes an emollient cataplasm for suppurating tumors. The juice, or root bruised, made into sirup with sugar, is occasionally given in infantile catarrhs and croup, and for colds. Its medical qualities are similar to those of the garlic (but inferior in strength), which should always be used instead of the onion if practicable. As food, the onion has been recommended strongly in suppressions of urine, in dropsies, and in calculous affections.

NO. 108.—GARLIC.

Common Names.—Clove-Garlic, &c.

A. SATIVUM.—Stem flat-leaved, bulb-bearing; bulb compound; stamens tricuspidate.

Description.—This plant rises a foot or more in height. The leaves from the root are numerous; on the stem few, long, flat, grass-like; the flowers rise between the small bulbs, which terminate the stem in a cluster; the flower is white, and commonly abortive; the calyx is a spathe common to all the florets and bulbs; the corolla consists of six oblong petals; the capsule is short, broad, 3-celled and 3-valved, and contains roundish seeds. It is a perennial, bulbous-rooted plant, and a native of France, Italy, and Sicily, but is cultivated in our gardens for culinary use. The root consists of five or six small bulbs, enclosed in one common envelope, of a whitish color. Its strong, disagreeable taste and odor are sufficiently known. It contains a very heavy acrid and yellow volatile oil, albumen, sulphur, a saccharine matter, and fecula. Its property depends upon this oil, which is heavier than water, and of a very penetrating odor.

Properties.—Garlic resembles the squill in its medicinal properties, being diuretic, diaphoretic, and expectorant. A poultice of it is a good resolvent in indolent tumors. It is of service in colds and coughs, united with honey, as an expectorant. As a counter-irritant, it is useful to cause revulsion; or in the form of draughts, to equalize the circulation. In asthma, both pituant and spasmodic, in flatulencies, and in hysterical diseases, it has in general a good effect. It is useful, applied externally, in fevers; applied to the feet, it is beneficial in all inflammatory diseases, and to quiet and produce sleep in children. In France, the expressed juice, diluted, is occasionally injected into the rectum, to dislodge ascarides; and is much employed in asthma, catarrh, and torpor of the abdominal viscera.

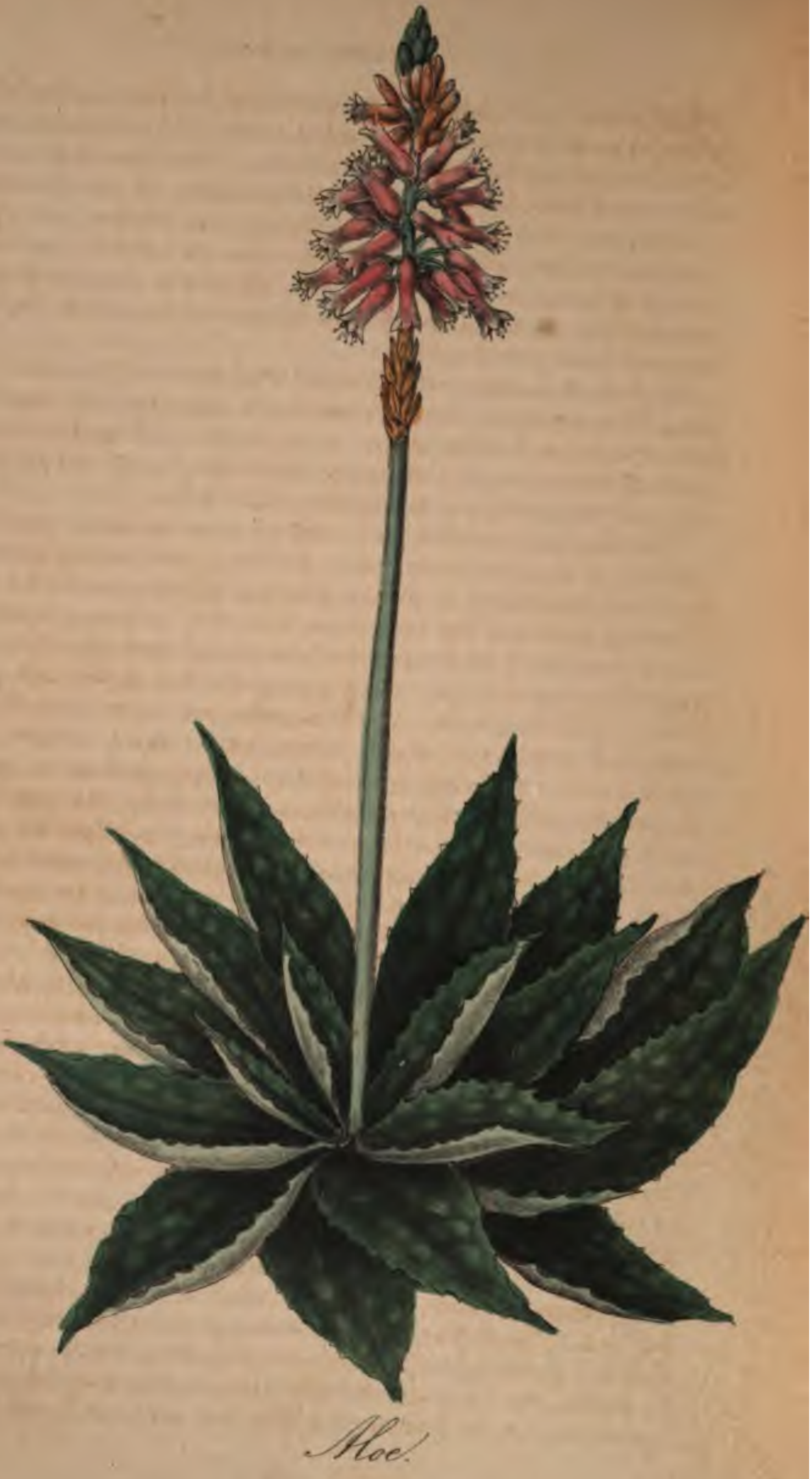
Employment.—The doses, in substance, are from half an ounce to an ounce, swallowed whole, or made into pills with soap; of the juice, from 20 to 30 drops on sugar. It enters into the *Sirup of Garlic* of our pharmacopœia.

GENUS ALOE.—Perianth petaloid, tubular, border spreading, 6-cleft, base nectariferous; filaments exserted from the receptacle; capsule superior, oblong 3-celled; seeds several, angular.

NO. 109.—ALOE.

Description.—There are several species of this genus from which the inspissated juice, known in commerce by the name *Aloes*, is procured. Of the drug, four chief varieties are kept in the shops:—

1. *Cape aloes*, brought from the cape of Good Hope. When freshly broken it has a very dark-olive or greenish color, approaching to black. The powder is of a fine greenish-yellow color. When perfectly hard, it is readily pulverized.



Aloe.

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2. *Socotrine aloes*, brought principally from the eastern coast of Africa. When in mass, it is soft, plastic, and of a very light, yellowish-brown color in the interior, and powdered with difficulty. The true socotrine is rather rarely found pure, but is mixed with the preceding and other varieties.

3. *Hepatic aloes* is imported into England from Bombay, and is of a reddish-brown color, darker and less glossy than the socotrine, but resembling it in odor, though less agreeable, and wholly different from the Cape. The taste is nauseous, intensely bitter, the fracture not so smooth, and the powder is of a dull-yellow color.

4. *Barbadoes aloes*, produced in the West Indies. The color is not uniform, being sometimes dark, or almost black, sometimes of a liver-color, and also of some intermediate shade. It has usually a dull fracture, and is almost perfectly opaque, even at the edges and in thin layers. Its odor is nauseous, and the powder is of a dull olive-yellow color.

The socotrine, esteemed the best of the aloes, are warm stimulating purgatives, and exercise a tonic power; proved by their extreme bitterness, and the beneficial influence in chronic affections of the stomach and bowels, as vomiting, flatulence, loss of appetite, and other symptoms usually denominated dyspeptic. Their operation is slow, but generally effective, nor do large doses appear to exert much more power than smaller ones. The medium dose of aloes is from five to ten grains, but they are generally combined with other purgatives to obviate habitual costiveness, to remove viscidity of the intestines, and from their stimulating and tonic powers are well adapted for jaundice, chlorosis, hypochondriasis, and scrofula. Through their acting more particularly on the colon and rectum, they are efficacious in expelling ascarides, but from the same cause they occasionally produce hemorrhoids. They also impart a stimulus to the uterine vessels, and are found beneficial as emmenagogues: pregnant women should therefore be cautious how they persist in their use.

Properties.—In moderate doses, from three to ten grains, aloes acts as a stimulating cathartic, influencing especially the large intestines, on which it operates rather by exciting their peristaltic action, than producing increased secretion from their mucous membrane. It produces its effects more slowly than most other medicines of this class, from ten to eighteen hours usually elapsing before it operates. The specific action of aloes on the large intestines contra-indicates its employment in hemorrhoidal affections, in irritation or inflammation of the pelvic viscera, the prostate gland or the urethra, in pregnancy or during the menstrual discharge. From its mode of operation it is also evidently not adapted for cases in which we wish to produce increased secretion from the intestinal canal, or where a speedy operation is required. The employment of aloes as a purgative is nevertheless very general, and perhaps there are few vegetable cathartics more extensively used. In torpor of the intestines, especially when accompanied with deficient secretion of bile, it is the most useful of this class of remedies; indeed, it appears to be the best substitute for that secretion, and is therefore exhibited with the most beneficial results in jaundice when unaccompanied with hepatic inflammation, mechanical obstruction of the ducts, &c. In habitual costiveness so common in females, aloes is also administered with much benefit, due attention being paid to the circumstances which contra-indicate its employment. Christison states that the cathartic property of aloes is much increased by its combination with sulphate of iron, and that its irritating action on the rectum is counteracted by combining it with extract of hyoscyamus.

Employment.—Aloes forms the basis of a great variety of drastic pills. It enters into many of our compounds, for which see PHARMACY.

Adulterations.—Sometimes it is adulterated with common resin, but most generally by mixing the inferior sorts with or substituting them for the finer kinds: of this we judge by the physical characters, particularly by the odor when breathed on.

GENUS ASPARAGUS.—Corol inferior, 6-cleft or 6-parted, erect; the three inner divisions reflexed at the apex; style very short; stigmas 3; berry 3-celled; cells 2-seeded.

NO. 110.—ASPARAGUS.

A. OFFICINALIS.—Stem herbaceous, unarmed, sub-erect, terete; leaves bristle-form, soft; stipules sub-solitary.

Description.—This well-known culinary plant is an exotic perennial, a native of the south of Europe, but has become naturalized in the northern and southern sections of our country. It is still employed to a considerable extent in France as a medical agent, and limitedly so here; as an article of diet, however, it is a great favorite, and not without wholesome effects upon the system.

Properties.—Diuretic, aperient, and deobstruent. The young shoots are eaten in the spring, and appear to have a powerful effect upon the kidneys and a sedative influence over the heart—on account of which they may be ordered as adjuvants. The root and seeds are used in medicine, and sometimes a sirup of the young shoots.

Employment.—An infusion of the root, drank freely, is good in calculus, dropsy, and kidney affections. Of the sirup, made from the expressed juice of the shoots, take from one to two fluid ounces; and a sirup of the berries has been used, it is said, with apparent advantage in diseases of the heart. Of the extract, the dose is about one dram. It should be prepared by inspissation: boiling injures the medical properties of asparagus. For the infusion, digest the roots in hot water for two hours; strain, and drink freely. This is a most excellent auxiliary in the treatment of all dropsical and nephritic complaints. The young shoots in the spring may also be treated in the same manner; and thus prescribed, they rarely disappoint the physician, when given in dropsical affections, and for gravel and stone in the bladder and kidneys.

GENUS BERBERIS.—Calyx inferior, 6-leaved; petals 6, with 2 glands at the claw of each; style none; berry 1-celled, 2 or 4 seeded.

NO. 111.—BARBERRY.

B VULGARIS.—Branches punctate; prickles mostly in threes; leaves obovate, remotely serrate; flowers racemed.
Synonym.—*B. canadensis.*

Description.—This shrub rises from four to eight feet in height, with branches long and bending, having many small thorns, often three together. The leaves are crowded and unequal in each fascicle, on short leaf-stalks, smooth and glossy, oboval, obtuse, with small, remote teeth. The flowers are on slender and lax racemes, either nodding or pendulous; yellow, on long pedicels, and rather small. The berries hang in loose bunches; they are oblong and red, and are frequently preserved in sugar for the table.

This shrub blossoms in April and May. The berries ripen in June, but they are sometimes abortive. The stamina of the flowers are irritable, and bend with elasticity toward the pistil when touched. It is found from Canada to Virginia, in mountains, hills, among rocks, &c.; common in New England, in rocky fields; rare in the west, and in rich soils. The whole shrub, even the root, is acid. In the berries this acid becomes very pleasant, and is probably the tartaric acid, but mixed with some astringency. The inner bark is yellow and bitter.

Properties.—Tonic, purgative, antiseptic, acid, and sub-astringent. The bark of the stem and root is the most important part of this shrub in medicine; an infusion being good in jaundice, having a tonic and laxative effect, and operating even to remove the yellowness of the skin and eyes. It is also an excellent gargle for sore mouth from any cause. A beer is likewise made from it, which is used in domestic practice for this purpose. The berries contain a very acid and red juice. The sirup diluted forms a pleasant and useful drink in diarrhœa, dysentery, fluxes, and malignant fevers, for abating heat, quenching thirst, raising the strength, and preventing putrefaction. They are very grateful to patients in all acute and febrile affections, when made into a conserve or jam, and will tend to create and improve an appetite. Prosper Alpinus says that, being attacked with a putrid fever, accompanied with a bilious diarrhœa, he attributes his recovery entirely to eating the fruit of the barberry. Simon Pauli gives a similar account of the use of the berries. J. Bauhin recommends the same remedy in dysentery, and the late observations of botanic physicians generally confirm all the views above advanced.

Employment.—Of the powdered bark, small doses are recommended to produce tonic and laxative effects. As a cathartic, it is taken in doses of a teaspoonful, repeated every two or three hours until it operates. In jaundice we infuse it in hard cider and give about a fluid ounce, sweetened, four or five times a day. The sirup, infusion, or decoction, for fluxes, &c., as well as in the above complaints, may be given as the stomach will bear, or according to the judgment of the practitioner.

GENUS CAULOPHYLLUM.—Calyx inferior, 3–6 leaved, caducous; nectaries 6, sub-reniform, fleshy, glutinous at the margin, attached to the claws of the petals; seed naked, elevated on a stipe, after having burst its caducous pericarp.

NO. 112.—PAPOOSE-ROOT.

Common Names.—Blue Cohosh, Squaw-root, Blue-berry, &c.

C. THALICTROIDES.—Stem-leaf simply ternate; floral one doubly ternate; stem ending in three leaves each; petiole being trifid, and supporting nine leaflets; the two lateral ones sessile, and 2-lobed, middle one petioled, and 3-lobed; raceme simple; berries dark blue; woody.

Synonym.—*Leontice thalictroides*, W.

Description.—This plant grows from two to four feet high; the root is yellow inside, brown outside, hard, irregular, knobby, branched, with many fibres; stem upright, straight, smooth, dividing at the top into three branches, each of which has three leaves, and in the centre of which comes out the flower-stem; leaves smooth, lobed, somewhat in shape like the hand. The flowers are of a yellowish green, producing a stone-berry, of a dark-blue color, something like sour grapes. It is a perennial plant, growing throughout the United States, and is generally found in low, moist, rich grounds, near running streams, in swamps, and on islands that have been overflowed with water.

Properties.—Demulcent, anti-spasmodic, emmenagogue, sudorific, &c. This plant is very efficacious in the cure of rheumatism and amenorrhœa. It appears to be well suited to the complaints of females, and for this purpose much used by the Indian women to expedite parturition, and in hysterical affections, dropsy, &c.; and is beneficial in venereal complaints. For rheumatism, Henry recommends two ounces of this root and one ounce of blood-root (*Sanguinaria canadensis*), bruised, and infused in three pints of spirits. Of this a wineglassful three times a day may be taken. This preparation will also promote the menstrual discharge.

Smith asserts that there is no doubt that Indian women owe the facility of their parturition to a constant use of a tea of the root for two or three weeks before their time. This view appears to be confirmed by Dr. Benedict, of the state of Kentucky, who declares that he has prescribed it to several females, who had uniformly tedious labors, with complete success. He also speaks highly of it as a nervine, useful in epilepsy, nervous excitement, suppressed menstruation, fluor-albus, and diseases of similar types.

Employment.—Given generally in the forms of infusion and decoction. For rheumatism, two ounces with one ounce of blood-root, infused in proof spirit, may be taken in wineglass doses three times a day. The root only is the officinal part of this plant.

GENUS CONVOLLARIA.—Corol 6-cleft; calyx none; stigma 3-sided; berry superior, 3-celled.

NO. 113.—LILY OF THE VALLEY.

C. MAJALIS.—Scape naked, smooth; leaves oval-ovate.

Description.—This beautiful plant is a native of Europe, and is found especially in the hard meadows of Sweden and in the southern parts of the United States. The flowers have a strong, delightful odor. The lily is extensively cultivated as a garden plant.

Properties.—Narcotic, anti-spasmodic, cathartic, and errhine. The flowers, as a conserve, were formerly used in epilepsy, apoplexy, and coryza. Taken internally, they are said to be emetic and cathartic, and their extract purges actively in the dose of half a dram. At present they are employed only in coarse powder as an errhine. The root may be used in every way as the flowers, it having similar properties.

Employment.—Indicated above.

NO. 114.—SOLOMON'S SEAL.

Common Names.—Giant Solomon's Seal, &c.

C. MULTIFLORA.—Leaves alternate, clasping the stem, oblong-oval; stem round, bending; peduncles axillary, loose, many-flowered; corols funnel-form, greenish white.

Synonyms.—*C. polygonatum*, *Polygonatum multiflorum.*

Description.—This plant rises six or seven inches in height; the leaves are lanceolate, and of a dark-green color; the flowers in umbels, and hang on the sides of the stalks, producing red berries. It generally grows on the sides of meadows, high banks, and mountains, in every part of the United States.

Properties.—The roots are astringent, tonic, corroborant, and demulcent. They are useful in all cases of fluor-albus, in immoderate flowing of the menses, arising from female weakness, and, combined with the comfrey in the form of sirup or cordial, they have been recommended for consumption and general debility. In all affections of the lungs it is a valuable ingredient for pulmonary compounds. The bruised roots, being very mucilaginous, have long been employed as poultices for inflammations and piles, and as a discutient application to various kinds of tumors, as well as to bruises accompanied with extravasation of blood in the cellular membrane. Galen speaks of this article, or of one analogous to it, as a cosmetic used by the women of his time to prevent and remove pimples of the face and freckles of the skin. It enters into the *Restorative Cordial* of our pharmacopœia.

Employment.—In infusion, sirup, or cordial, and as poultices.

NO. 115.—SMALL SOLOMON'S SEAL.

Common Names.—Spiked Solomon's Seal, Clustered Solomon's Seal, &c.

C. RACEMOSA.—Stem with alternate leaves; leaves sessile, oblong-oval, acuminate, nerved, pubescent; flowers in a terminal raceme-panicle.

Description.—The root of this species is creeping, jointed, fibrous, yellow externally, white within, and thick as the little finger. The stem is round, flexuous, hairy, and two feet or more in height; the leaves are six or eight inches in length, partially clasping at the base, nerved, of a shining green, covered with a fine down, and tapering to a long point; the flowers are white, making their appearance in June, and are arranged in a cluster at the end of the stem. It is usually found in low grounds, among bushes.

Properties and Uses.—The same as those of the preceding plant.

GENUS LILIUM.—Corol inferior, liliaceous, 6-petalled; petals with a longitudinal line from the middle to the base; stamens shorter than the style; stigma undivided; capsule sub-triangular, with the valves connected by hairs crossing as in a sieve.

NO. 116.—WHITE LILY.

L. CANDIDUM.—Leaves lanceolate, scattered, tapering to the base; corol bell-form, glabrous within.

Description.—Root bulbous; stem upright, rising about three feet; leaves numerous, smooth, without foot-stalks; flowers large, white, terminating, the stem in clusters upon short peduncles; the corolla is bell-shaped, composed of six petals of a beautiful white color; capsule oblong, divided into three cells, containing many flattish seeds of a semicircular shape. This plant is a native of the Levant, Syria, and Asia Minor, but is cultivated in our gardens for its beauty, and is perhaps one of its oldest inhabitants. Before the time of Gerard it was very generally cultivated in ornamental gardens.

Properties.—Emollient, anodyne, and emmenagogue. The roots are mucilaginous, and, boiled in milk, form good cataplasms, which will fulfil the same indications as those made of garlics, and are also said to be of benefit in dropsy and epilepsy. The fresh root, simmered in lard, is beneficial in eruptive diseases. The flowers have an agreeable odor, and were formerly used in medicine.

Employment.—A poultice made with milk, and an ointment with lard, as outward applications. It enters into the *Tetter Ointment* of our pharmacopœia. The fresh bulb has been used for dropsies.

GENUS PRINOS.—Consists of shrubs, a part of which are deciduous and a part evergreen; bearing small lateral or axillary flowers: its character is formed by a 6-cleft calyx, a monopetalous sub-rotate, 6-cleft corolla, and a 6-seeded berry.

NO. 117.—BLACK ALDER.

Common Names.—Winter-berry, False Alder, &c.

P. VERTICILLATUS.—Leaves deciduous, oval, serrate, acuminate, pubescent beneath; fascicles of staminate flowers axillary, umbelliferous; the pistillate flowers are aggregated; both 6-parted.

Synonym.—*P. gronovii*, Mx.

Description.—The black alder is irregular in its growth, but most commonly grows in bunches six or eight feet in height. The leaves are alternate, or scattered, on short petioles, oval, acute at the base, sharply serrate, acuminate, some hairy, particularly on the veins underneath; the flowers are small, white, growing in little tufts or imperfect umbels, which are nearly sessile in the axils of the leaves; calyx small, 6-cleft, persistent; corolla monopetalous, spreading, without a tube, the border divided into six outer segments; the stamens are erect, with oblong anthers: in the barren flowers they are equal in length to the corolla, in the fertile ones shorter; the germ in the fertile flowers is large, green, roundish, with a short neck or style, terminating in an obtuse stigma. These are followed by irregular bunches of bright-scarlet berries, which are roundish, supported by the persistent calyx, and crowned with the stigma, 6-celled, containing six long seeds, convex outwardly, and sharp-edged within. The berries are bitter and unpleasant to the taste, with a little sweetness and some acrimony. The bark is moderately bitter, but inferior in this respect to some other shrubs.

Properties.—Alterative, sub-astringent, tonic, corroborant, and anti-herpetic. It is used in both substance and decoction in intermittent and various other forms of fever, even those of an aggravated bilious type, and is very useful as a tonic and corroborant in cases of great debility; also in dropsies and incipient gangrene. It is likewise of value in obstinate cutaneous diseases, given internally or applied as a wash.

Barton thinks that, on some occasions, the black alder is better than the Peruvian bark. Dr. Thatcher recommends a decoction, or infusion of the bark, taken internally, in doses of a teacupful, and employed also as a wash for the cure of cutaneous eruptions, particularly the herpetic kind. A tea or decoction of the bark, sweetened, has been highly extolled for the removal of worms in the stomach of children. The bark or root, combined with other articles, and made into beer or diet-drink, is found to be excellent to purify the blood. The berries, infused in brandy, are said to be very efficacious in some pulmonary affections, bleeding piles, and internal hemorrhage. Matthew Noyes, a clergyman of Northford, Connecticut, it is said was cured of an affection of the lungs which had rendered him unable to preach. He took a wineglassful of the above preparation three or four times a day.

Employment.— The dose of the powder is from 30 grains to a dram, repeated several times a day. The decoction should be made by boiling two ounces of the bark in three pints of water down to a quart: dose, from two to three fluid ounces.

GENUS SCILLA.—Corolla inferior, of six ovate-oblong petals, spreading, deciduous; stamens thread-shaped.

NO. 118.—OFFICINAL SQUILL.

Common Names.—Squills, Sea-Onion, &c.

S. MARITIMA.—Bulb coated, pear-shaped, scaly at the top; flowers much earlier than the leaves, in a strong, dense, cylindrical cluster; lower bracteas elongated at the base.

Synonym.—*Urginea maritima*, Steinheil.

Description.—This plant is a native of the sandy shores of France, Spain, Portugal, Italy, Sicily, Syria, and the Levant. It blossoms in July and August, the leaves not appearing until October and November.

The entire bulb varies in size from that of the fist to that of a child's head, ovoid, covered externally with layers of thin, reddish *(Squilla rubra)* or whitish *(Squilla alba)* papery membranes; internally it is composed of thick, fleshy, concentric scales, of a pale rose-color. Dried squill is in yellowish, somewhat translucent slices, brittle, but readily attracting moisture when they become flexible; it is odorless, but has an acrid, very nauseous taste.

Squill consists of a crystallizable alkaloid (SCILLITINA), probably the active principle of the drug, of tannin, gum, uncrystallizable sugar, acrid volatile matter, and some salts. It yields its virtues to water, alcohol, vinegar, and the dilute acids. The sesqui-salts of iron communicate a deep-blue color to the infusion, but it is not affected by gelatin, or by tincture of iodine.

Properties.—In large doses, squill acts as a narcotico-acrid poison, twenty-four grains of the powder having proved fatal; but in medicinal doses it operates as a diuretic, expectorant, and emetic, and, if the patient is kept warm during its administration, will produce a profuse perspiration. It is chiefly employed in cases where the organs of respiration are clogged or oppressed with mucus, and is extolled for its efficacy in dropsical swellings and in inflammations of the kidneys. In combination with digitalis, it seldom fails to produce increased flow of urine, and at the same time promote the absorption of the effused fluid in dropsies. Squill alone is perhaps better adapted for local than for general dropsy. It is commonly held to be inadmissible when inflammatory symptoms are present.

Employment.—As a diuretic, the pulverized squill is given, in from one to three grain doses, made into pills with mucilage; or of the tincture, from 10 to 30 drops of vinegar of squills: dose, from one half to one and a half drams; and of the wine, from one to three drams. As an emetic, the sirup of squills is sometimes given to children in hooping-cough, croup, &c., in doses of about one fluid dram every quarter of an hour until the desired effect is produced.

Incompatibles.—The alkalies, and the sesqui-salts of iron.

GENUS UVULARIA.—Corol inferior, 6-petalled, with a nectariferous hollow at the base of each petal; filaments very short, growing to the anther; stigmas reflexed; capsule 3-cornered, 3-celled, 3-valved, with transverse partitions; seeds many, subglobose, arilled at the hilum.

NO. 119.—BELLWORT.

Common Names.—Mohawk-weed, &c.

U. PERFOLIATA.—Leaves perfoliate, oval, obtuse; corol bell-lilaceous, scabrous or granular within; anthers cuspidate.

Description.—The stalk rises from six to eighteen inches in height, and is most frequently divided into two equal branches at the top, on one of which there is one triangular seed-vessel. The leaves are separate and perfoliate; blossom yellow and unfolds in May; roots white, fibrous, and possess but little taste or smell; grows on rich hillsides and in moist bottoms, in timbered lands; and is found in nearly all the western states. Its general appearance resembles the Solomon's seal when young, and at first view might be mistaken for it.

Properties.—Herpetic, demulcent, and nervine. We learned some of the properties of this plant from the aborigines, who used it for the bites of the rattlesnake and other reptiles, and for wounds and sores. It is very useful in sore mouth and in inflamed larynx and gums. When chewed, and the saliva swallowed, it cures sore throat. The shoots are edible when young, like asparagus, and also the dry roots cooked.

Dr. Humphrey, of Illinois, states that he was induced to attempt its exhibition in a case of erysipetalous face where all the usual remedies failed: in six hours the symptoms disappeared, and the patient was cured; since which he has found it eminently successful in the treatment of diseases of this class, in acute ophthalmia, and in all herpetic cases, as well as for sore ears, mouth, &c., of children.

Employment.—In decoction and fine powder internally, and the ointment or poultice for outward application.

Order 33. Digynia.—Bearing flowers with but two styles or sessile stigmas.

GENUS ORYZA.—Calyx glume, 2-valved, 1-flowered; corol 2-valved, adhering to the seed.

NO. 120.—RICE.

O. SATIVA.—Culm jointed; leaves clasping; panicle terminal.

Description.—This is an annual and well-known plant, a native of the inundated parts of India; but it is now cultivated in the southern portions of this country, and in all parts of the globe where the soil and climate will permit. The rice of commerce consists of the seeds of this plant deprived of their husk, and constitutes the almost exclusive diet of whole nations in Asia and Africa.

Properties.—The seeds or grains are mealy, sweet, and highly nutritious; and being free from laxative properties, are admirably adapted to cases of weak bowels in which there is a strong tendency to looseness or diarrhœa, both as an article of diet and a remedial agent. The popular notion that a diet of rice is injurious to the eyes is but a popular fallacy.

Employment.—A decoction, called *rice-water*, is a good nutritive drink in fevers and in inflammatory affections of the bowels, lungs, and kidneys. Burned, as coffee, and reduced to powder, it is somewhat astringent: take a teaspoonful of this and add a teacupful of boiling water; when settled, pour off and sweeten; this will be a dose for an infant in bowel-complaints, gradually lessening the discharges, and rendering them less green and sour. The dose for an adult is a tablespoonful of the burnt and powdered rice to a teacupful of water, and is beneficial in acidity of the stomach.

Order III. Trigynia.—Bearing flowers with but three styles or sessile stigmas.

GENUS COLCHICUM.—Perianth single, corollaceous, with a radical tube and 6-parted limb; capsules 3, inflated; seeds numerous.

NO. 121.—COLCHICUM.

Common Names.—Meadow-Saffron, &c.

C. AUTUMNALE.—Leaves flat, lanceolate, erect; segments of the perianth oblong.

Description.—This is an exotic, perennial plant, a native of the south of Europe, and grows in considerable abundance in the north and west of England, but all attempts to naturalize it here appear to have failed. The cormus (improperly called a bulb) is fleshy, covered with a loose, brown membrane, giving origin in the middle of summer to a young cormus, which remains attached to the parent, grows rapidly, and sends up in autumn a naked white tube or flowering stem, terminating in a pale-purple, crocus-like flower; the flower soon dies; and the seed-vessel, which remains under ground, springs up with the erect, broadly-lanceolate leaves, in the ensuing February or March.

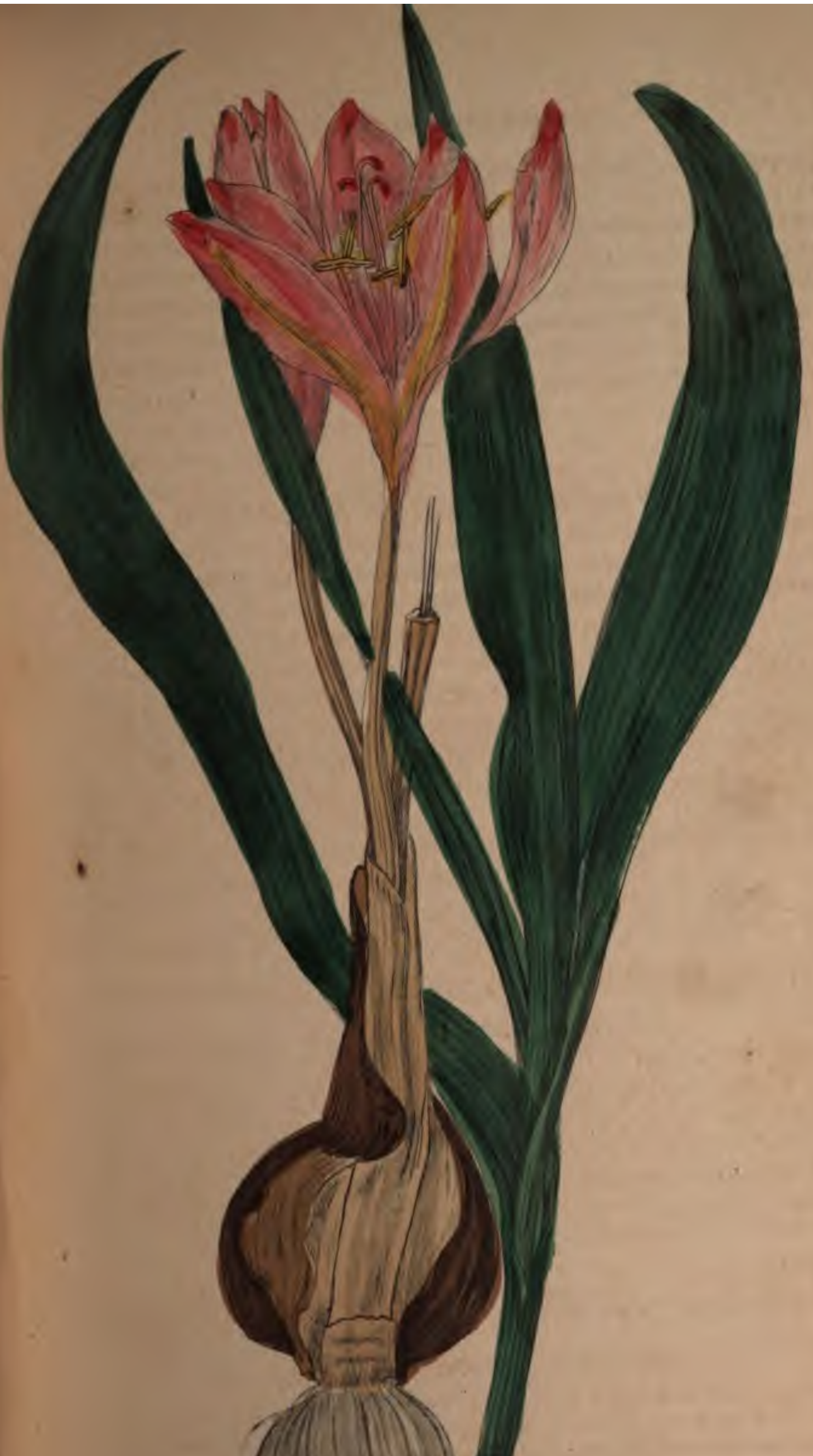
Properties.—Cathartic, &c. The principal diseases in which colchicum has been employed are gout and rheumatism. Administered during a paroxysm of gout, it seldom fails to alleviate the pain and cut short the fit. In acute rheumatism the employment of this article requires the greatest caution. Owing to its action on the secretion of the uric acid, it is employed with the best possible effect in diseases of the urinary organs in which oxalate of lime is present in the urine.

GENUS HELONIAS.—Calyx none; corol 6-parted or 6-petalled, spreading, glandless; styles distinct; capsules 3-celled, 3-horned, few-seeded.

NO. 122.—UNICORN-ROOT.

Common Names.—False Unicorn, Blazing Star, Devil's-bit, Drooping Starwort, &c.

H. DIOICIA.—Scape leafy; racemes spiked, nodding; pedicels short, sub-bracted; filaments longer than the corol; petals linear; leaves lance-oblong. Generally diœcious.



Colchicum Autumnale

121

Synonyms.—*H. pumila*, Jn.; *Melanthium dioicum*, Wr.; *M. densum*, Lk.; *Veratrum luteum*, Linn., &c.

Description.—This plant has a tapering, fibrous root, about an inch long, small, very hard, transversely wrinkled, and mostly abrupt at the end, as if bitten off—hence one of its common names: yet the devil's-bit of the shops, and what is now generally known by that name, is the *Aletris farinosa.*

The unicorn is abundant in some of the western states, and is found also in Pennsylvania, New York, and Connecticut, growing in woodlands and meadows in moist situations. The root and leaves continue green all winter, and spread upon the ground in the form of a star; they are four or five inches long, and terminated by a somewhat tapering point. The stem of the male plant is a foot or more in height, and terminates in a long, drooping, and very graceful spike of flowers, of a dirty-white color, remaining in bloom from June to July. The stem of the female plant is erect, much taller than the other, and furnished with flowers of a larger size.

There is danger of the *Aletris farinosa* being mistaken for this plant, as it has received, in common with it, several of its vulgar names. Although somewhat similar in growth and appearance, the medical properties are vastly different, and the confounding of them in administration as medicine would be hazardous. The *Helonias* is the unicorn of the shops, while the *Aletris* is the blazing star.—(See No. 106.)

Properties.—Tonic, corroborant, &c. It is beneficial in stomach-complaints and diseases of the digestive organs, acting as a tonic in improving the appetite; it is also useful in checking nausea and vomiting. The root is much esteemed among botanic physicians for various complaints affecting the digestive functions. When chewed, it appears to be useful in alleviating coughs. The Indian women employed this plant under an impression that it would prevent abortion; an idea that Thomson appears to have borrowed from them, as he did many others, and has made it an ingredient in his "Woman's Friend."

Employment.—The root may be given in powder, in doses of half a teaspoonful. It is also used in tincture, and as an ingredient in compound sirups. Portions of the solid root are recommended to be retained in the mouth, swallowing the saliva which it will excite.

Adulterations.—It will sometimes be found adulterated with a mixture of the beth-root.

GENUS RUMEX.—Calyx 3-leaved; petals 3, valve-like, converging; stigmas many-cleft; seed 1, naked, 3-sided.

NO. 123.—SHEEP-SORREL.

Common Names.—Field-Sorrel, &c.

R. ACETOSELLUS.—Valves without grains; leaves lance-hastate; flowers diœcious.

Description.—This is a common and well-known plant, growing from six to twelve inches in height, in old pastures and fields, throughout the United States.

Properties.—Refrigerant, anti-scorbutic, &c. It is useful in all inflammatory diseases, as well as in scurvy.

Employment.—Used in decoction freely. The leaves, wrapped up and roasted, and applied to indolent tumors, wens, boils, inflammations, &c., will bring on suppuration quickly, and be found very serviceable. The leaves may be administered with great advantage as an article of diet in scorbutic affections.

NO. 124.—WATER-DOCK.

Common Names.—Great Water-Dock, &c.

R. AQUATICUS.—Valves ovate, entire, bearing obsolete grains; leaves heart-lanceolate, acute.

Description.—This plant is a native of the marshes of Europe, as well as of this country. It rises five feet high; the leaves are nearly two feet long, narrow, linear, and pointed; those at the bottom are nearly eighteen inches long, of a narrow ovate form, somewhat indented, and stand upon long, channelled foot-stalks; flowers numerous, yellow, and hang in whorled spikes upon slender peduncles.

Properties.—Deobstruent, tonic, and detergent. This plant affords a medicine of considerable efficacy when applied externally as a wash for foul ulcers, and for spongy and putrid gums; its roots, when pulverized, have been found excellent for cleaning the teeth. The roots are of a bitter, astringent taste, and have often been employed for the cure of scorbutic and cutaneous disorders, in which they are administered internally, and applied externally in ointments, cataplasms, lotions, or fomentations. Decoctions of the leaves are likewise an efficacious laxative, and have been taken with advantage in rheumatic pains and chronic diseases occasioned by costiveness or by visceral obstructions.

The Indians used the water-dock with great success in cleansing foul ulcers. Dr. Withering states that he saw an ill-conditioned ulcer in the mouth, which had destroyed the palate, cured by washing the mouth with a decoction of this root, and drinking a small quantity of the same daily.

Employment.—The dose usually given is a decoction of half an ounce of the fresh roots, or from one to two drams of them in a dry state.

NO. 125.—YELLOW-DOCK.

Common Names.—Narrow-leaf Dock, Garden Patience, Sour Dock, Curled Dock, &c.

R. CRISPUS.—Valves of the calyx ovate, entire, all marked with a grain-like appendage on the back; leaves lanceolate, undulate, acute.

Description.—Stem herbaceous, branched at the top, four or five feet high, cylindrical and channelled; leaves elongate, sagittate, supported by long petioles; flowers greenish, in panicles at the top of the branches; calyx turbinate, with six divisions; six stamens inserted in the calyx; three stigmas; fruit triangular.

This plant is perennial, indigenous to Europe, and naturalized in America. It grows abundantly in damp places, in gardens, &c.; flowering in the summer. The root is long, fibrous, fusiform, brownish externally, yellowish internally, almost inodorous, and of an acrid and bitter taste. The leaves possess a sub-acid taste.

The yellow-dock root, of which no accurate analysis has yet been made, seems to contain sulphur in a free state, oxalate of lime, starch, and some extractive principle soluble in water and alcohol. It is a very popular remedy in domestic practice, chiefly in combination, in alterative and detergent sirups. The leaves are boiled and eaten like spinach, and the roots are employed in making a yellow dye.

Properties.—Slightly tonic, astringent, detergent, alterative, anti-herpetic, &c. It somewhat resembles the rhubarb in its operation upon the bowels, and its effect on the system is very satisfactory in all cases of scrofulous taint, impurities of the blood, and in cutaneous affections; and for these purposes it is now frequently prescribed. Dr. Sanborn, who has devoted much attention to the properties of this plant, thus speaks of it: "The common narrow or yellow dock is one of the best of our native plants. It is physical and bracing; it will evacuate the bowels without weakening the system, as many other medicines do: three tumblerfuls per day at three different times may be taken with perfect safety. There is scarcely any disease where it may not be administered to advantage. I have used it in palpitation of the heart with very visible benefit. In all bilious complaints it has never failed in giving immediate relief. In the piles it always relieves. It will allay internal heat, and promote a moisture upon the surface. I have found nothing surpass it in cases of hectic fever. In all diseases of the skin it may be administered with advantage. It is good in chronic as well as in inflammatory rheumatism.

"The reason that the value of this article is so little known is, perhaps, because the patient does not take enough of it, and does not follow it up long enough. It will purify the blood, promote the secretions and excretions, allay inflammation and irritation, and throw out of the system acrimonious humors. It is rather cold when taken alone: it may be made palatable with sugar and molasses; and add as much cayenne to every tumblerful as you may conveniently take up on the handle of a teaspoon, or half a teaspoonful. It will prove gently laxative.

"I have used it in bleeding at the lungs, attended with cough, with beneficial results; in this case the powdered root should be used: one teaspoonful to a cupful of milk, scalded in. It is rather difficult to procure the right kind; that which is found in wet land is white and woody, and is not fit to use. There is no kind good but that which is yellow and fibrous."

Employment.—A decoction of this root drank is considered beneficial in the cure of cancers. A poultice, applied to indolent swellings, is very useful to discuss them; an ointment is also good in the discussion of indolent glandular tumors. Thatcher says it will effectually cure the itch. A sirup made of the root (which is a good way of exhibiting it) is excellent to eradicate scrofulous and other taints of the system. Ten grains of the pulverized root may be given as a dose. This powder may also be used as a dentifrice when the gums are spongy, for which it is excellent.

NO. 126.—BROAD-LEAF DOCK.

Common Names.—Blunt-leaved Dock, &c.

R. OBTUSIFOLIUS.—Valves toothed, principally bearing a grain-like appendage; radical leaves heart-oblong, obtuse; stem a little scabrous.

Description.—This is a common plant in our rich grounds and pastures, but is supposed to have been introduced from Europe. Its flowers appear in June and July; the root is large, dark on the outside, and internally of a yellow color. The stem is two or three feet high, and somewhat rough; the radical leaves ovate, cordate, obtuse, and very large; the valves dentate, and one of them conspicuously graniferous.

Properties.—The properties of this plant are similar to those of the preceding species of the dock.

GENUS TRILLIUM.—Calyx 3-leaved, inferior, spreading; corol 3-petalled; styles none; stigmas 3; berry 3-celled, many-seeded.

NO. 127.—BETH-ROOT.

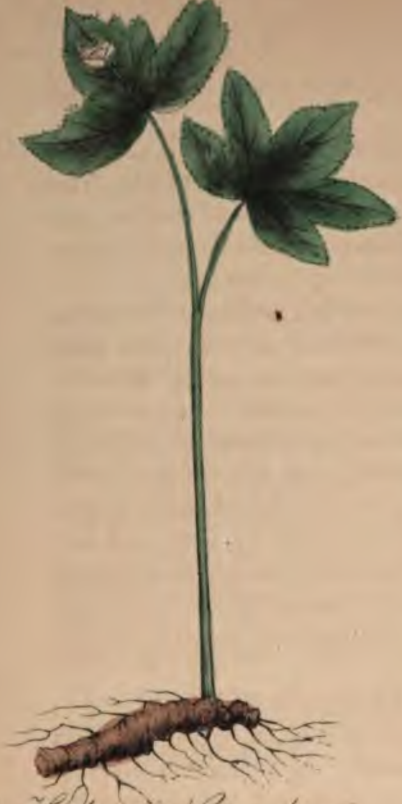
Common Names.—Broad-leaf-Beth-root, Birth-root, Cough-root, Indian Balm, Ground-Lily, &c.

T. PURPUREUM.—Leaves spatulate-ovate, acuminate, net-veined; flowers peduncled, nodding; petals larger than the calyx.

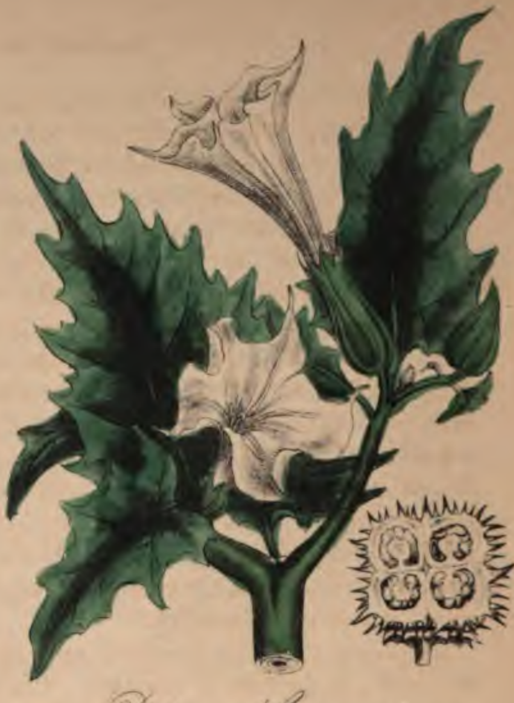
Synonyms.—*T. latifolium*, Raf.; *T. cernumona*, Bw.; *T. pendulum*, Mattson.

Description.—This plant rises twelve inches in height, and has three large leaves at the top of the stem, from between which appears a solitary, bell-shaped flower, of a purple or white color. The root is bulbous, full of small fibres, of a brown color externally, and white within. In the southern states it blooms in April; but farther north, not till May. Mattson calls this the *T. pendulum*, which is a mistake.

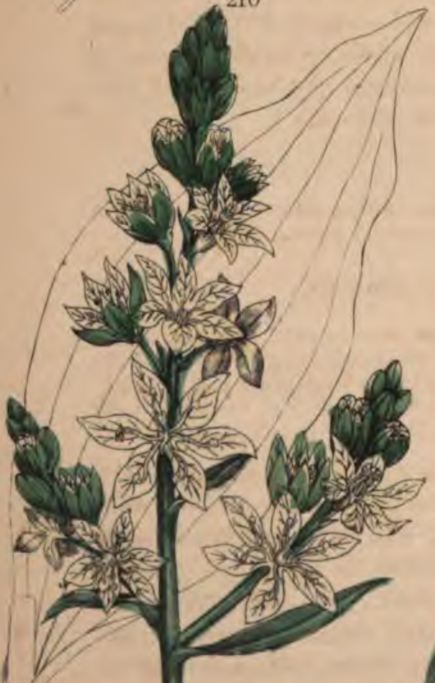
Properties.—The root of this plant is astringent, pectoral, tonic, antiseptic, alterative, &c. The root is employed internally in hematuria, or bleeding from the kidneys, bladder, or urethra, in uterine hemorrhage, immoderate menstrual evacuations, spitting of blood, hectic fever, asthma, cough, and all pulmonary diseases, administered in doses of a teaspoonful of the powdered root, or in infusion. In fluor-albus I have employed an infusion of this root with much success. "Externally," says Rafinesque, "this root is very useful in the form of a poultice, in tumors, indolent and putrid ulcers, carbuncles, and mortifications, by itself, or, what is still better, in combination with



Hydrastis Canadensis.
210



Datura Stramonium.
45



atrum Viride.
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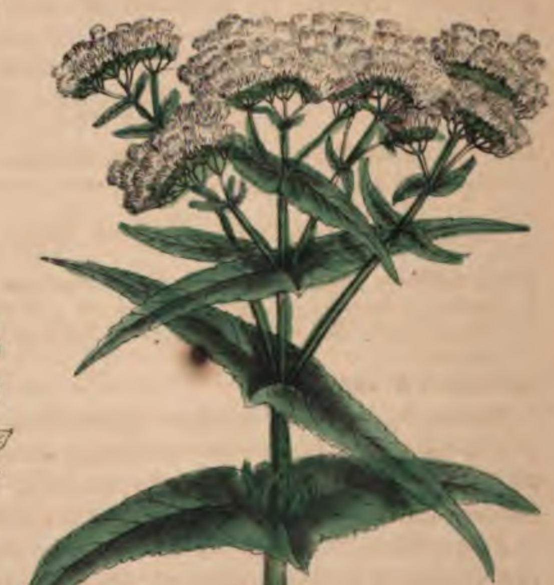

Eupatorium Perfoliatum.
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blood-root." As a tonic, this article, combined with blood-root, is said by the same writer to be a certain cure for inflamed carbuncles and ulcers, after a purge has been administered. It is also said that this root restrains gangrene. In female complaints it is a good astringent, given in menorrhagia, leucorrhœa, and, after parturition, to astringe the uterine organs.

The Canadians say that the roots chewed will instantly cure the bite of the rattlesnake, in both men and cattle. Mr. Hawkins saw an Indian make the experiment for a gill of rum: how it resulted was not stated. The Indians of Missouri call this plant *Mochar newachar*, signifying *heat and cold.* It is their palliative in consumption, and their women make much use of the article after parturition. It is very strengthening and stimulating. In the treatment of leucorrhœa, it is a valuable remedy; and in certain cases of prolapsus uteri, attended with debility and relaxation of the ligaments and contiguous parts, it is not only used internally, but also as an enema applied to the parts once or twice a day during the whole period of its internal use. It is, on the whole, a medicine of much more value than it is generally thought to be, and deserves attention.

Employment.—The powdered root may be given in teaspoonful doses; externally, in the form of poultice. The infusion is made by adding a pint of boiling water to a tablespoonful of the powder; to be drunk freely. If this is wanted in hemorrhage, its astringent qualities will be improved by using the raspberry-leaf tea as a menstruum, and making the infusion strong, a tablespoonful or two to be given as a dose, and gradually increased as circumstances require. In pulmonary affections probably the sirup would be a good medicine; but as a general rule the powdered root in doses of from 10 to 20 grains is the preferable mode of administration.

GENUS VERATRUM.—Polygamous or diœcious. Calyx none; corol 6-parted or 6-petalled, sessile, spreading, without glands; capsules 3, adnate, many-seeded.

NO. 128.—WHITE HELLEBORE.

Common Names.—Itch-weed, Indian Poke, Wolf-bane, &c.

V. VIRIDE.—Racemes panicled; bracts of the branches lance-oblong, the bract of the flowers longer than the sub-pubescent peduncles; leaves broad-ovate, plaited, many-nerved.

Synonym.— *V. album*, Mx.

Description.—White hellebore grows from three to five feet in height. It is indigenous to this country, abounding in the valleys of the Green mountains. The root is tuberous, fleshy, brownish externally, and furnished at the base with long, simple, white, cylindrical fibres.

Properties.—This is a poisonous, active plant. The root, which is the part employed, is acrid, nauseous, drastic, emetic, errhine, acoprotic, repellent, powerfully stimulant, followed by sedative effects, escharotic, and inflaming the skin if applied to it. It is beneficial in epilepsy, gout, mania, cophosis, and acute rheumatism; and is applied topically in scabs, tinea capitis, lepra, scorbutic and cutaneous affections, &c. It is a powerful and dangerous article, however, and requires great caution in its exhibition. In doses of from three to ten grains the powder is emetic, but it often fails in some persons, and always acts tardily. A wine made from it is used in gout: dose (adding one fourth opium) from fifteen to thirty drops, repeated at intervals. The ointment, used externally, has been known to produce emesis, even by application to the legs! In decoction it is a poison to all insects, and is noxious to swine, sheep, geese, and fowls; crows are intoxicated by eating corn steeped in it. In gout it removes the paroxysms, allays pains, procures rest and sleep, reduces the pulse, and abates fevers. It is also employed in keeping issues open in ulcers. It is used by some empirics as a tonic and emmenagogue in quinsy sore throat, suppressions, &c., but its employment in these complaints is dangerous. Improper doses produce dimness of sight, faintness, insensibility, &c. The Indians formerly made use of it to poison their arrows; it has latterly been employed in tanning leather very quickly. It contains VERATRINE, a narcotic alkali.

Employment.—We use the root, diluted with some mild power, as an errhine in catarrh, and the ointment in herpetic affections. The decoction as an injection has been recommended for fistula in ano.

Class VII. Heptandria.—Bearing flowers with but seven stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS ÆSCULUS.—Calyx bell-form, 5-lobed; petals 4 or 5, expanded; limbs ovate; filaments recurved inwardly; capsules prickly; leaflets sessile or sub-sessile.

NO. 129.—HORSE-CHESTNUT.

Common Names.—Spanish Chestnut, &c.

Æ. HIPPOCASTANUM.—Capsule prickly; corol 5-petalled; leaflets 7, wedge-obovate, acute, toothed; flowers speckled.

Description.—This is a magnificent tree, a native of the north of Asia, but has been generally cultivated in Europe since its introduction by Clusius about the middle of the sixteenth century, and is well known in this country. The fruit consists almost entirely of fecula. The bark, which is inodorous, is bitter, astringent, and slightly aromatic. It yields its virtues to both water and proof spirit. The sulphates of iron and zinc throw down from the infusion dark-colored precipitates, while oxymuriate of mercury and superacetate of lead precipitate it white. Tartar-emetic effects no change in it; gelatin precipitates a small portion of tannin. A new vegetable principle, named ESCULINE, which is said to possess alkaline properties, has been discovered in *Æsculus hippocastanum*, by M. Carzoneri, and on it the febrifuge virtues of the bark are supposed to depend.

Properties.—The bark, which, for use, should be about three years old, was first recommended as a febrifuge by Zannichelli; and several other European physicians have subsequently written accounts of its efficacy in intermittent and other fevers. The powder of horse-chestnut bark was one of the common ingredients that entered into the factitious *Cinchonas*, which, during the prolonged war, when the British navy shut the continental ports, were resorted to from necessity by the French physicians

Employment.—A strong decoction has been commended as a lotion in gangrene; and four grains applied to the nostrils at night, are said to act mildly in the morning, as an errhine. The usual dose of the powder is from one half to a dram every four hours. Of the decoction, made with one and a half ounces of the bark to a pint of water, about two ounces may be given three times a day.

Order IV. Tetragynia.—Bearing flowers with but four styles or sessile stigmas.

GENUS SAURURUS.—Calyx in an ament or spike, with 1-flowered scales; corolla none; anthers adnate to the filaments; germs 4; berries or capsules 4, 1-seeded; stamens 6, 7, 8, or more.

NO. 130.—LIZARD'S TAIL.

Common Names.—Swamp-Lily, &c.

S. CERNUUS.—Stem angular, sulcate; leaves alternate, heart-oblong, acuminate.

Properties and Uses.—The fresh root is applied in the form of poultices, as emollients and discutients, to inflamed and swelled surfaces. Roasted, and applied as a poultice, it has been found exceedingly efficient in lumbago, pains in the breast, sore nipples, &c.

Class VIII. Octandria.—Bearing flowers with but eight stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS ACER.—Polygamous. Sometimes hexandrous. Calyx 5-cleft; corol 4 or 5 petalled, or wanting; samaras 2, united at the base, 1-seeded, often one rudiment of a seed.

NO. 131.—STRIPED MAPLE.

Common Names.—Whistle-wood, Moose-wood, False Dogwood, &c.

A. STRIATUM.—Lower leaves roundish, upper ones 3-cuspidate-acuminate, sharply serrate, glabrous; racemes simple, pendent.

Synonym.—*A. pennsylvanicum*, Wildenow.

Description.—This is a small forest-tree, attaining the height of about fifteen feet, covered with a greenish-striped bark, and generally grows on cold, timbered land. The leaves are large, and of the form of those of the sugar-maple.

Properties and Uses.—The bark of this tree is now kept in the shops, and is recommended as a valuable detergent. The decoction is used as a wash for inflamed and ill-conditioned sores and ulcers. The fresh leaves are said to possess great efficacy applied as drafts to reduce inflammations.

GENUS DAPHNE.—Calyx none; corol 4-cleft, withering, including the stamens; drupe 1-seeded.

NO. 132.—MEZEREON.

D. MEZEREUM.—Flowers sessile, cauline, in threes; leaves lanceolate.

Description.—This is an indigenous low shrub, growing in woods and shady places, and flowering in February or March. It grows plentifully in the vicinity of the Ohio river. When cultivated in gardens, in rich soil, it attains to the height of sixteen feet. The whole plant is so corrosive, that six of its berries are said to kill a wolf. The bark of the root, when chewed for some time, is extremely acrid to the taste, exciting an insupportable sensation of burning in the mouth and throat.

Properties.—Mezereon is a stimulating diaphoretic, and has been found serviceable in chronic rheumatism and cutaneous diseases. Its principal use is in syphilis, as being particularly efficacious in removing venereal nodes, and disposing ulcerations to heal.

Employment.—It is given in the form of decoction: two drams of the bark, with half an ounce of licorice-root, being boiled in three pounds of water to two pounds, and four or six ounces of this given four times a day. It is generally combined with sarsaparilla, when it forms the "compound decoction of sarsaparilla," usually kept in apothecaries' shops.

GENUS DIRCA.—Calyx none; corol tubular; limb obsolete, unequal; stamens unequal, longer than the tube of the corol; style filiform; berry or drupe 1-seeded.

NO. 133.—LEATHER-WOOD.

Common Names.—American Mezereon, Moose-wood, &c.

D. PALUSTRIS.—Leaves oval; flowers axillary, 2 or 3 in a hairy, bud-like involucre.

Description.—This is a small bush, from one to five feet in height, with a very tough bark. It grows in swamps and damp places. The bark and root have a peculiar, nauseous smell, and an unpleasant, acrimonious taste. They contain an acrid resin, bitterish extractive, mucilage, &c.; the resin or active principle is only soluble in boiling alcohol. The decoction and extract are bitter, but not acrimonious.

Properties.—Emetic, cathartic, rubefacient, epispastic, &c., and the berries narcotic. The fresh root and bark, in substance, at the dose of from five to ten grains, produce vomiting, with a sense of heat in the stomach, and sometimes act as a cathartic also. They are an active and dangerous medicine, to which less acrimonious substances ought to be preferred. Applied to the skin, they produce rubefaction and vesication in thirty hours: this appears a safer mode of using them, as they might become auxiliaries to the Spanish flies *(Cantharides)*. The berries produce nausea, giddiness, stupor, dilatation of the pupil, and insensibility, like other narcotics. Bigelow considers this plant a substitute for the *Polygala senega;* and we find it also to resemble that article in its expectorant and sudorific properties: but the latter is by far better and safer, and therefore preferable. When the bark of the leather-wood is chewed, it produces salivation; it is so tough, that it can not be reduced to powder, but forms only a kind of lint.

Employment.—As a tincture, in small doses.

GENUS JEFFERSONIA.—Calyx 4 or 5 leaved, colored, caducous; corol 8-petalled; capsule obovate, sub-stiped, 1-celled, dehiscent below the top; seeds many, oblong, arilled at the base.

NO. 134.—TWIN-LEAF.

Common Names.—Yellow-root, Ground-Squirrel Pea, &c.

J. DIPHYLLA.—Stemless; peduncles naked, 1-flowered; leaves in pairs.

The best essay I have seen on this article was written by the talented editor of the "Western Medical Reformer," in 1838, and which I take the liberty to select:—

Description.—"This singular plant grows abundantly in many parts of the western states, chiefly near streams and rivers. It grows luxuriantly along the banks of the Scioto, near this place [Worthington, Ohio]. It is known by various names in different sections, as twin-leaf, yellow-root, ground-squirrel pea, &c. Its root is perennial, large, yellowish, and fibrous. Its leaves rise directly from the root, on long petioles; they are smooth, oval, and twin or binate. Its flower-stem, or scape, is erect, naked, and bears a single white flower, resembling that of the puccoon or blood-root. It blooms in April.

Properties.—"The root is the part used: this has a pungent, somewhat disagreeable, bitterish, and acrid taste. It imparts its virtues to both water and alcohol. The Jeffersonia is an active article, and our experience with it has satisfied us that it is possessed of valuable remedial powers. Yet it does not appear to have attracted the attention of any class of physicians; at least it is not noticed by any medical author except Barton, and he supposes its properties to be similar to those of the *Podophyllum peltatum*, which is not the case—that being a powerful cathartic; whereas, the Jeffersonia acts as a stimulating diaphoretic and diuretic, and, except given in very large doses, does not act upon the bowels. It seems to resemble, in its action, the seneka snake-root.

"We have used it principally in chronic rheumatism, in the secondary forms of syphilis, and in those painful affections so often resulting from the use of mercurial preparations, and generally with very satisfactory success. In chronic rheumatism, especially, our success with this article has been signal. We have also administered it with evident benefit in many other chronic diseases, particularly those in which the class of medicines called alteratives are supposed to be indicated.

Employment.—"The best forms of exhibiting it are in decoction and saturated tincture. The former is prepared by adding a pint of water to half an ounce of the bruised root; then boil for fifteen or twenty minutes, and strain: dose, from half to a wineglassful three times a day. The latter, two ounces of the root to a pint of diluted alcohol, or Holland gin: dose, from one to three teaspoonfuls three times a day, morning, noon, and night."

GENUS ŒNOTHERA.—Calyx 4-cleft, tubular, caducous; divisions deflected; petals 4, inserted on the calyx; stigma 4-cleft; capsule 4-celled, 4-valved· seed not feathered, affixed to a central 4-sided columella.

NO. 135.—SCABISH.

Common Names.—Tree-Primrose, &c.

Œ. BIENNIS.—Stem villose, scabrous; leaves lance-ovate, flat, toothed; flowers subsessile; stamens shorter than the corol.

Description.—This is a biennial, indigenous plant, growing in fields and along fences, from Canada to the Carolinas, rising from two to five feet in height, with a rough stem, alternate ovate-lanceolate leaves, and fine yellow blossoms, appearing in July and August.

Properties.—Vulnerary and herpetic, and very useful in tetter and most eruptive and cutaneous affections. It is generally used externally as a wash.

Employment.—The decoction applied topically several times a day to the affected parts.

Order III. Trigynia.—Bearing flowers with but three styles or sessile stigmas.

GENUS POLYGONUM.—Calyx inferior, 5-parted, colored; corol none; seed 1, angular, covered with the calyx.

NO. 136.—KNOT-GRASS.

P. AVICULARE.—Stamens 8; styles 3; leaves lanceolate, scabrous at the margin; stipules short, lacerate; stem procumbent; flowers sub-sessile, axillary, minute.

Description.—This is a pale-green plant, and grows in dooryards and by the wayside where the ground is made hard by being occasionally trampled. It has many branches, which spread on the ground, so that a thrifty plant will sometimes reach one foot or more each way from the centre. The leaves are short and small.

Properties.—The whole plant possesses diuretic, nephritic, and nervine properties. Dr. Mattson, who experimented upon this article, says: "The grass, which is the portion used in medicine, has simply an herbaceous taste. I have used it in three or four severe cases of colic, and it has always afforded entire relief in from fifteen minutes to half an hour. I gave some of it for trial to a brother-practitioner, and he did not hesitate to ascribe to it very extraordinary virtues in this disease. It appears to be equally efficacious in flatulency, tenesmus, and spasms of any part of the body. There is no doubt that the plant is capable of a very extensive remedial application, and I hope it will receive the attention of practitioners." It was formerly used by physicians as a vulnerary and styptic, but fell into disuse.

Employment.—The infusion may be taken, in doses of about a teacupful, as often as appears necessary.

NO. 137.—BISTORT.

Common Names.—Great Bistort, Snake-weed, Patience-Dock, &c.

P. BISTORTA.—Stem simple, bearing one spike; leaves ovate, waved, the radical ones running down the foot-stalk.

Description.—This plant is indigenous to Europe, and was probably introduced here, where it is found to be a troublesome weed in meadows. It is perennial, and flowers in June. The root is creeping, woody, and crooked; it is about the thickness of a finger, surrounded with slender fibres, of a brownish-black color on the outside, and reddish within. The stem is solitary, simple, erect, about a foot or eighteen inches in height, round, swelling at the joints, striate and smooth. The leaves are entire, ovate, smooth, somewhat flexuose, of a bright-green color, and glaucous beneath; the radical ones are somewhat cordate, pointed, and stand upon long winged, or rather decurrent foot-stalks; those of the stem are almost sessile, amplexicaule, having tubular, sheathing foot-stalks, each furnished with membranous stipulæ or ochræ. The flowers terminate the stem in a close cylindrical spike, about two inches in length; each of them stands single on very short, slender stalks, with membranous, notched, brown bracteas at the base. The calyx is generally rose-colored, and deeply divided into five obtuse segments; the stamens are eight, tapering, longer than the calyx, and supporting purple anthers; the germen is triangular, bearing three distinct styles, with small obtuse stigmas. The nuts are triangular, black, and shining, each containing a single seed.

Properties.—The root of bistort, the part used in medicine, is inodorous, but to the taste very astringent. It gives out its virtues to water, and turns a solution of green vitriol to ink. Bistort is really a very powerful astringent, and appears to be neglected merely because it grows in almost every meadow. The powdered root, in doses of a dram, will be found useful in hemorrhage, diarrhœa, and chronic dysentery; and, combined with bitters, has been recommended for the cure of intermittent fever, by Dr. Cullen, of England. The decoction is also employed as an astringent injection in fluor-albus and gleet; as a gargle in spongy gums and sore throat; and as a lotion to discharging ulcers. Internally it is combined with gentian in intermittents; and as an astringent in passive hemorrhages, chronic mucous discharges, and alvine fluxes, it is equal to marsh-rosemary or cranesbill.

Employment.—The dose of the powder is from a scruple to half a dram; and of the decoction, from one to two fluid ounces three or four times a day.

Incompatibles.—All substances incompatible with tannin, and tincture of iodine.

NO. 138.—WATER-PEPPER.

Common Names.—Arse-smart, Smart-weed, Biting-knot weed, &c.

P. PUNCTATUM.—Stamens 8; styles 3; leaves lanceolate, glabrous; stipules lax, glabrous, ciliate at the apex, spotted; spike filiform, weak, somewhat nodding; bracts remotely alternate.

Synonyms.—*P. hydropiper*, Mx.; *P. hydropiperoides*, Ph.

Description.—This species of polygonum is an extremely common plant throughout every section of the United States. The stem rises to the height of from about twelve to twenty-four inches, and is slender, smooth, branching, and erect. The leaves are lanceolate, very acute, and end at the base in a short, compressed, sheathing petiole. The stipules are truncate and pubescent. The flowers are in one or two simple, slender spikes, and of a pale-pink or white color. It flowers from July to September. The pale-green color of the whole plant, and the white or nearly white flowers, will assist in distinguishing it from the other species resembling it—these having a deeper green or purplish color, and bright-red flowers. The taste is very acrid. Proof spirit is the best menstruum for extracting its active properties.

Properties.—Dr. J. Eberle made many experiments in the administration of this plant, which were published in the "Western Journal of Practical Medicine" in 1837, in two or three very interesting articles, the substance of which is thus stated by Dr. Kost in his new work: "Dr. Eberle considered this one of the best emmenagogues that we possess. 'I have employed this plant,' says he, 'in perhaps twenty cases of amenorrhœa; and I can affirm that with no other remedy or mode of treatment have I been so successful as with this. I have seldom found it necessary to continue its use for more than six or seven days before its emmenagogue powers were manifested.' The author has also proved it successful in a number of cases. Dr. Eberle used it in a saturated tincture, in teaspoonful doses. It will answer just as well to use the cold watery infusion. But the plant should never be scalded, as this impairs its medical virtues. Long keeping also injures it. The medicine is perfectly safe, and may be taken freely until the desired effect is produced."

Employment.—It is generally employed in the form of a saturated tincture. The extract made with diluted alcohol is also an excellent preparation. The dose of the tincture is a teaspoonful two or three times daily; of the extract, from five to eight grains may be given at a dose.

Class IX. Enneandria.—Bearing flowers with but nine stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS LAURUS.—Calyx 4 to 6 parted; corol none; nectaries 3, each a 2-bristled or 2-lobed gland, surrounding the germ; drupe 1-seeded; stamens vary from 3 to 14, but generally in two series of 6 each.

NO. 139.—SPICE-BUSH.

Common Names.—Fever-bush, &c.

L. BENZOIN.—Leaves wedge-obovate, whitish, sub-pubescent beneath; flowers in clustered umbels; buds and pedicels glabrous.

Description.—This is an indigenous shrub, growing from four to ten feet in height, and delighting in moist, rich soil, or river bottoms; leaves cuneo-obovate, entire, sub-pubescent beneath; flowers in clustered umbels, appearing before the leaves; berries oval, of a shining-crimson color when ripe. All parts of the shrub have a spicy, agreeable flavor, which is the strongest in the bark and berries.

Properties.—A very pleasant, spicy stimulant and tonic. It is useful, in decoction, as a drink in fevers, and has been considered a specific for intermittents. The berries have been highly recommended as a stimulant in rheumatism. By distillation, the branches, bark, and berries, yield essential oil containing all the stimulant virtues, but not the tonic.

Employment.—Administered as a tonic, about four ounces of the infusion may be given.

NO. 140.—CAMPHOR.

L. CAMPHORA.—Leaves triply-nerved, lance-ovate, whitish beneath; flowers on long peduncles.

Description.—Camphor is a proximate principle contained in a great number of plants, but is obtained principally from the *Dryobalanops camphora*, a large tree, a native of the forests on the northwestern coast of Sumatra; and from the *Laurus camphora*, a tree growing in China and Japan. The *Dryobalanops* has a large trunk, often six or seven feet in diameter; the leaves are opposite below, and alternate above, elliptical, obtusely acuminate, or rather beaked, parallel-veined, entire, supported on short petioles, with subulate, caducous stipules in pairs; calyx 1-leafed, permanent, enlarged into a gibbous cup, with five ligulate, long scariose wings; corolla 5-parted; fruit a persistent capsule, superior, ovate, woody, fibrous, longitudinally furrowed, 1-celled and 3-valved, with a solitary seed, possessing a strong terebinthinate fragrance. The trunk of the *Laurus camphora* is straight and tolerably high; the leaves are alternate, oval, shining on the superior surface, glaucous on the inferior one; the flowers are in corymbs, supported on long peduncles; the fruit is similar to that of the cinnamon-tree, but smaller.

Camphor is solid, white, transparent, very volatile, and brittle; it is commonly in the form of round pieces, convex on one side, slightly concave on the other, of a crystalline texture and shining fracture, not easily pulverized, tenacious between the teeth, of a strong smell, and generally of an acrid taste, followed by a sensation of cold. Its specific gravity is 0·988. It is composed of carbon, 74·38; hydrogen, 10·67; and oxygen, 14·61. It inflames easily, and burns with a good deal of smoke, without leaving any residue. Heated, it melts at 347° Fahr., boils at 400° Fahr., and is easily reduced to vapor, even at the common temperature. Alcohol dissolves three fourths of its weight; it is very soluble in ether, and in fixed and volatile oils, but water dissolves only a small quantity, and precipitates it from its alcoholic solutions. Treated with nitric acid, it gives camphoric acid, and with sulphuric acid it changes partly into artificial tannin.

Properties.—Camphor is stimulant, sudorific, and anti-spasmodic. Exhibited in small doses, it increases excitement; but if pushed too far, it induces delirium, vertigo, convulsions, and death. In low typhoid fevers, this article appears to exert its greatest benefit. Combined with opium and ipecacuanha, it is a very valuable remedy in low typhus and putrid fevers. Its power of allaying the delirium and other nervous symptoms of typhus is more decisive than that of any other remedy we possess. It has likewise been given with success in epilepsy. Dr. Gooch considers camphor, given in union with hyoscyamus, the best sudorific with which we are now acquainted. His method of administering it is, to give ten grains of each at bedtime, after the use of the tepid bath. Camphor enters into the *Sudorific Drops* and several plasters.

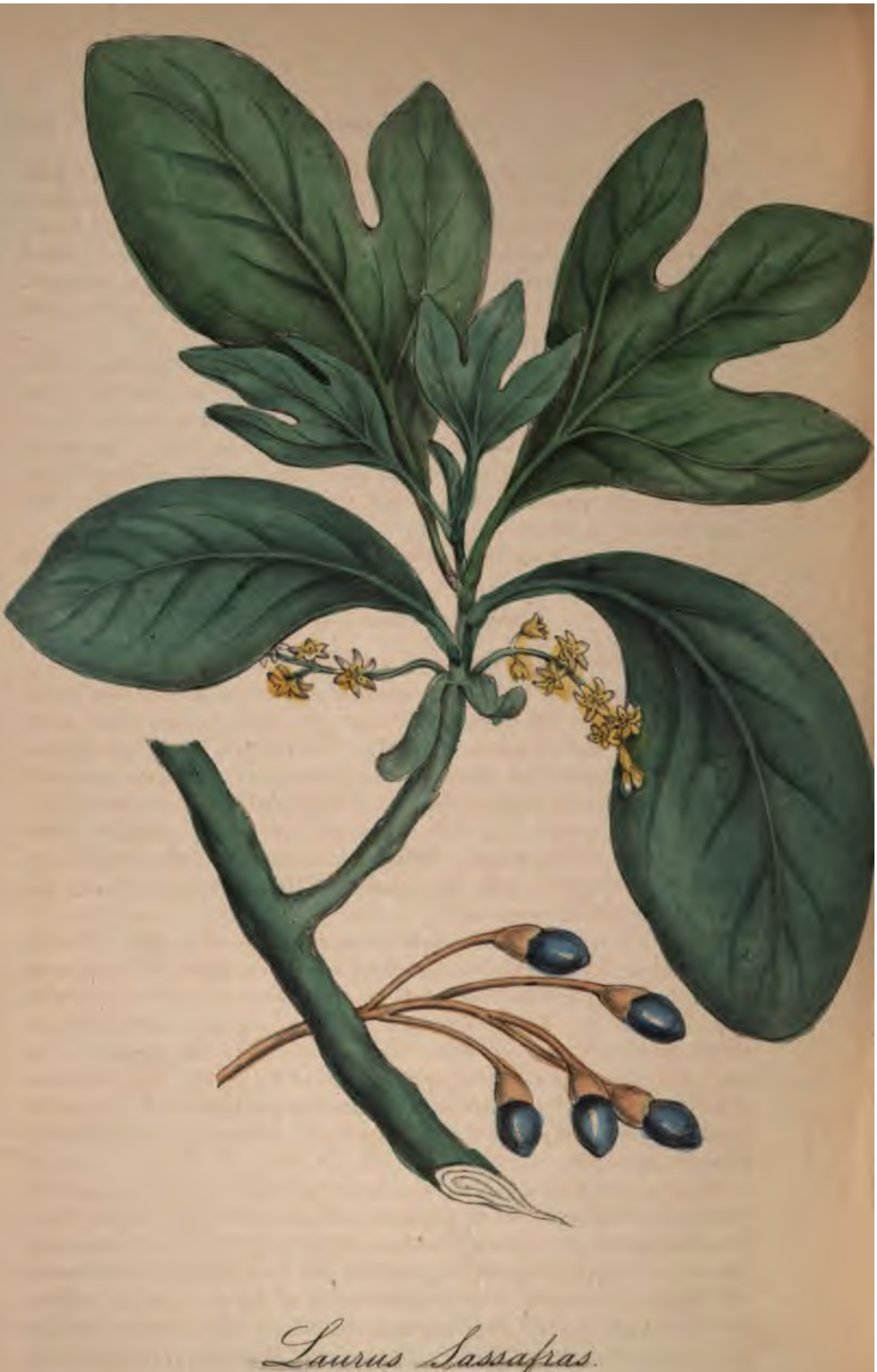
Employment.—Given in the form of powder, emulsion, or solution. By titurating it with a few drops of alcohol, it is easily pulverized. The dose of the powder is from two grains to one scruple.

NO. 141.—CINNAMON.

L. CINNAMOMUM.—Leaves 3-nerved, ovate-oblong, the nerves disappearing toward the tip; flowers panicled; bark smooth.

Description.—The trunk of the cinnamon-tree grows from twenty-five to thirty feet high; the bark is grayish outside, and red inside; leaves irregularly opposite, acute, tough, smooth, green on one side, and glaucous on the other; flowers yellowish, in a loose and axillary panicle; calyx pubescent, with six divisions: male flowers with nine stamina, forming several rows; female flowers ovoid, terminated by a thick style; stigma capitulate; fruit ovoid, resembling an acorn.

This tree was formerly cultivated exclusively in the island of Ceylon, and was guarded by the Dutch with unremitting jealousy, that they might monopolize the whole commerce of its production. They, however, at length failed in their attempts, and the cinnamon is now cultivated in other parts of the East Indies, and is likewise produced in the West India islands.



Laurus Sassafras.

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Cinnamon contains, according to Vauquelin, a very acrid and strong volatile oil, of a yellow color, and heavier than water, a great deal of tannin, a coloring matter containing nitrogen, an acid, a mucilage, and some fecula. In the Ceylon and Cayenne cinnamon, these proximate principles are found in very nearly the same proportions; but the Chinese contains a more considerable quantity of essential oil. Water and alcohol take up the active principles of cinnamon.

Properties.—Cinnamon is a very pleasant and grateful aromatic to the taste and stomach, more so than any others of this class of remedies. It is, like others of this class, stimulating, warming to the stomach, carminative, and tonic. It is principally used as an adjunct to other remedies, and to disguise their smell and taste. It occasionally enters into the *Neutralizing Physic* of our pharmacopœia, and also into the *Compound Spirits of Lavender.* It is likewise useful in bowel-complaints.

Employment.—Given in powder, in doses of from twelve grains to one scruple.

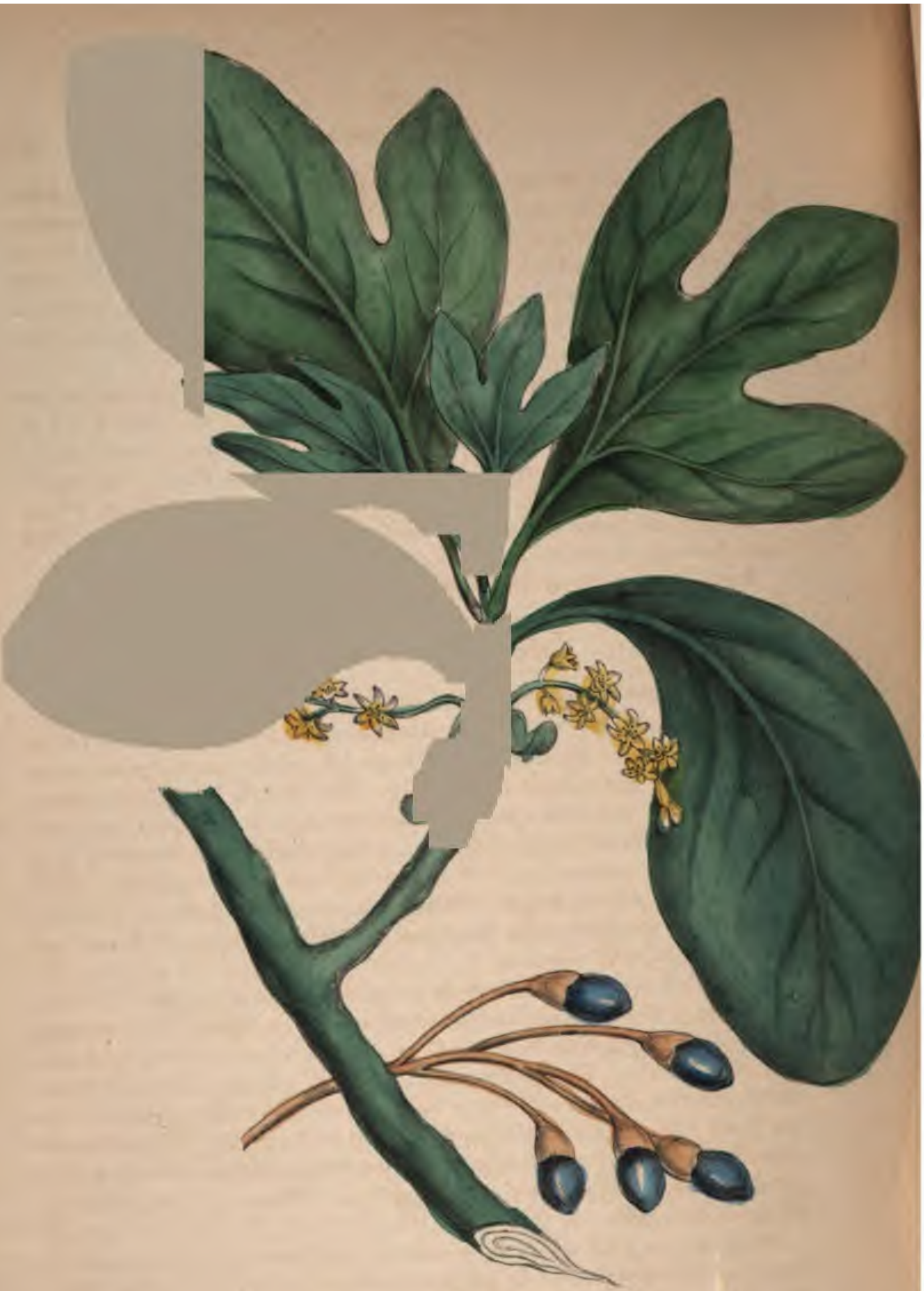
NO. 142.—SASSAFRAS.

L. SASSAFRAS.—Leaves entire and lobed on the same tree; downy beneath.

Description.—The trunk of the sassafras grows from thirty to forty feet in height; the leaves are alternate, caducous, of various shapes, green on the upper surface, and whitish on the under. The flowers are forked, yellowish, in small panicles: in the male flowers the calyx is pubescent, 6-parted; six stamina, three of which are barren; anthers quadrilateral, 4-celled; pistil barren: female flowers five, with barren stamina; stigma globular; ovary ovoid; fruit a pisiform drupe. This tree is a native of North America, and is found growing plentifully throughout the United States, in forests and along the borders of swamps.

The root is found in commerce in pieces of the size of the arm. The lignous part is light, porous, composed of concentric layers, of a yellowish color, of a strong and aromatic smell, of a sweetish taste at first, then warm, and slightly acrid. The bark is thick, rugose, of a spongy nature, of a red-brown color, and furnished with a resinous and yellowish epidermis. Its smell and taste are much stronger than those of the wood. This substance contains an essential oil, heavier than water, very volatile, of a pale-yellow color, and becoming red by the action of light. Water and alcohol take up its active principles.

Properties.—This article is stimulating and attenuating, very good in rheumatic complaints and in eruptive diseases. The bark of the young branches and the pith contain mucilage. If the pith be infused in a glass of water, a considerable quantity of mucilage will be extracted, which renders this infusion very useful in acute inflammation of the eyes, and in catarrhs and dysentery. Alibert frequently administered sassafras, at the hospital of St. Louis (Paris), in rheumatic complaints, and it always appeared to pro-



Laurus Sassafras.

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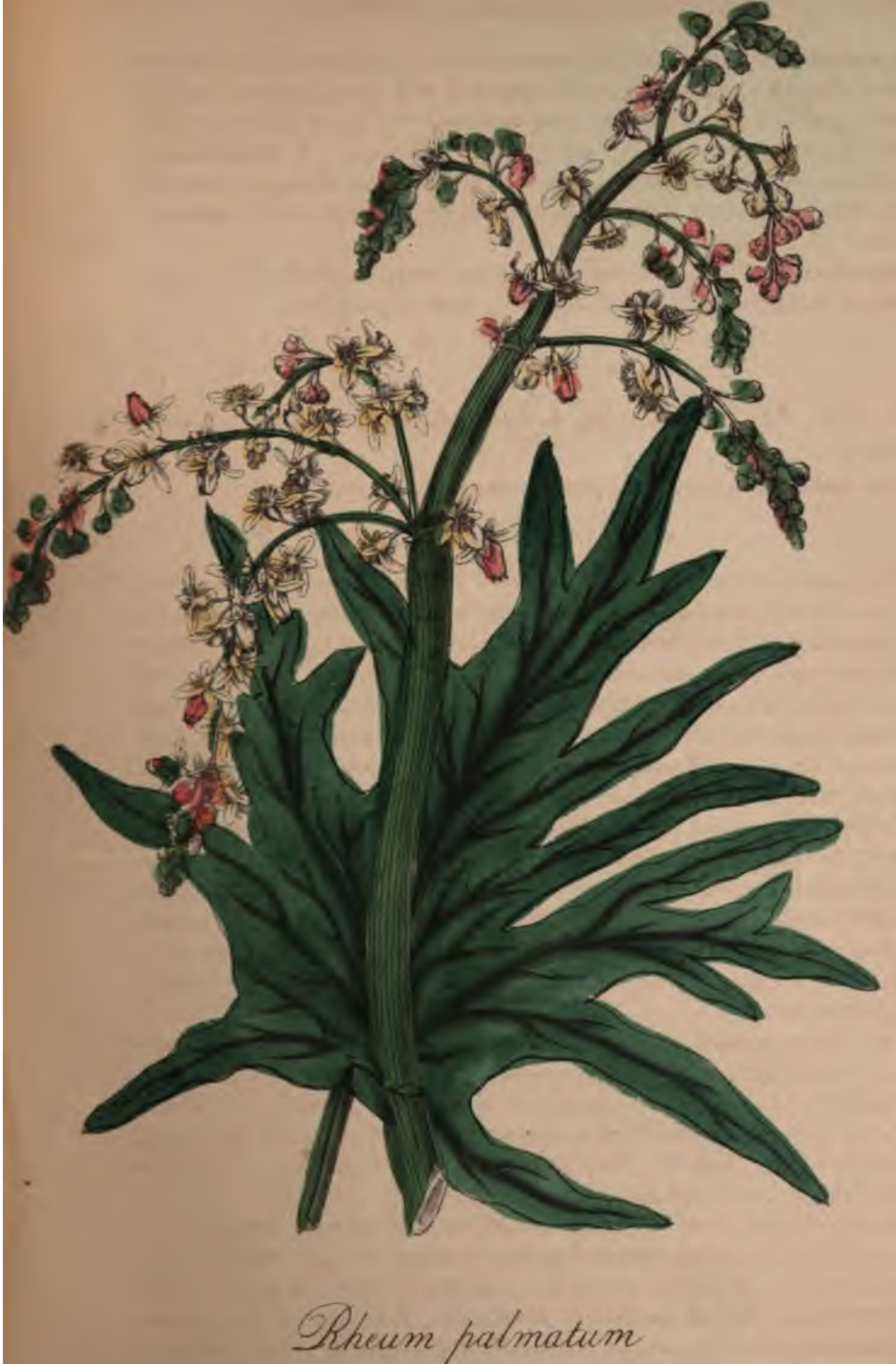

Rheum palmatum

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duce a manifest action on the cutaneous vessels. He likewise mentions two cases of gout in which sassafras was employed with complete success. Dr. Eberle says, "I have known the long-continued use of an infusion of this article effectually cure a case of inveterate rheumatism." It enters into the *Alterative Sirup* of our pharmacopœia. The pith of sassafras, put into rose-water, makes the *Laurus Eye-Water*, which is very valuable in ophthalmia, or inflammation of the eyes.

Employment.—Infuse from one to two ounces of the bark of the root in a quart of boiling water. Drink according to circumstances.

Order III. Trigynia.—Bearing flowers with but three styles or sessile stigmas.

GENUS RHEUM.—Calyx none; corol 6-cleft, permanent; seed 1, 3-sided.

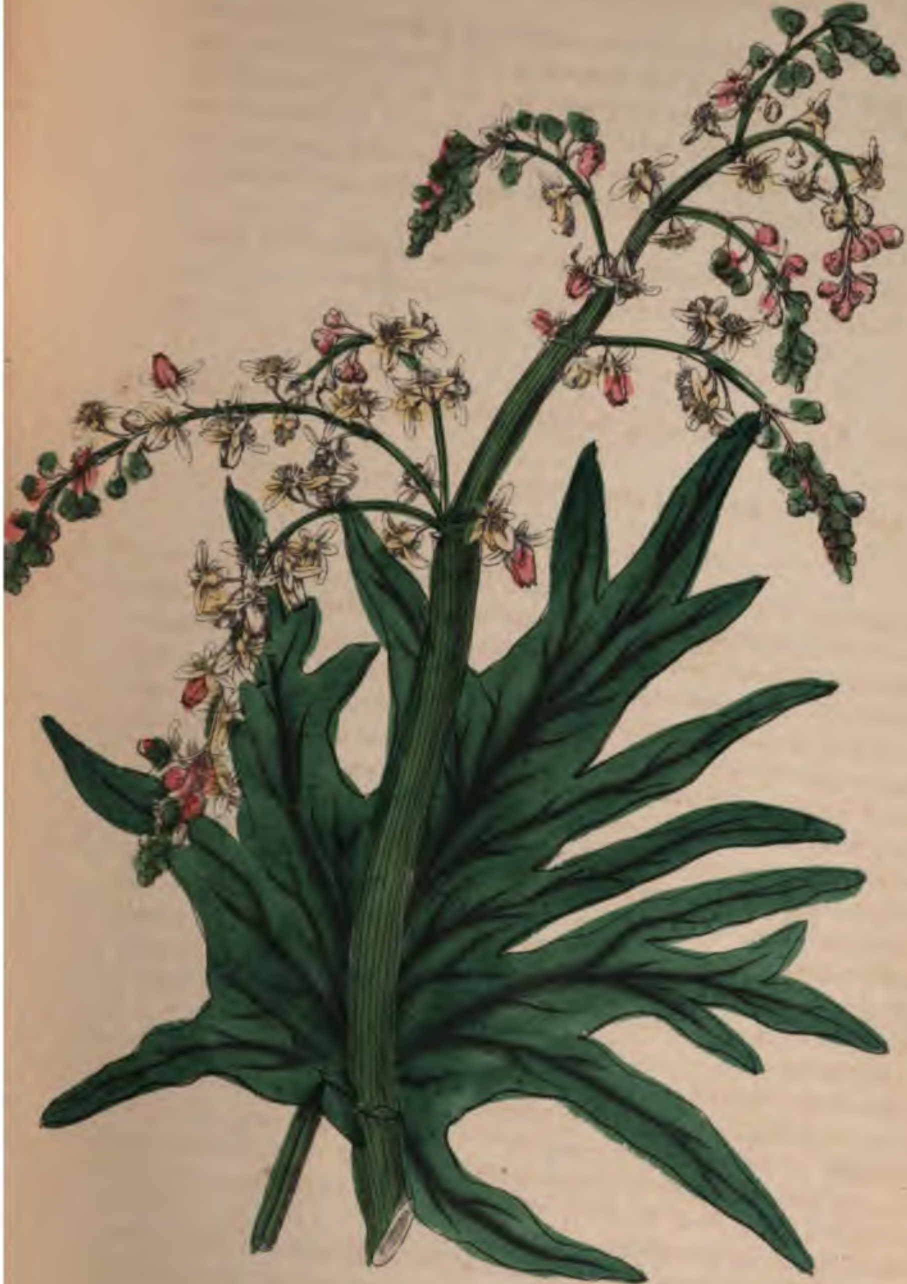
NO. 143.—RHUBARB.

Description.—The stem of the rhubarb is simple, straight, cylindrical, from two to four feet high, ramose at top; leaves very large, petiolate, the limb divided into seven acute lobes, irregularly cut on the sides; flowers small, yellowish, very numerous, in an elongate panicle at the top of the stem; calyx 5 or 6 divided; nine stamina; five simple stigmas, almost sessile; fruit a capsule with three prominent angles. This is a perennial plant, a native of China and Tartary; it is cultivated in various parts of Europe, especially in France, and is likewise produced in America.

We find in commerce three principal species of rhubarb. The Russian rhubarb, the most valued of the three, is in pieces somewhat flattened, irregular, sometimes angular; smooth, with a hole in the middle, of a yellow color externally; irregularly marked internally with red and white veins; of a compact fracture, a strong peculiar odor, and a bitter and astringent taste; gritty under the teeth; dyeing the saliva of a saffron-yellow color. Its powder is of a pure yellow.

The Chinese rhubarb is in round pieces, larger than those of the preceding, not so smooth, nor so well prepared; generally with small holes, of a dirty-yellow color, and covered over with a yellowish powder. Their texture is compact, of a dull-red color, and marked internally with white veins; of a dull and rough fracture, gritty under the teeth, and having a taste and a smell similar to the preceding.

The rhubarb cultivated in France, and of late in England, is less esteemed than the others, and is not furnished by the *Rheum palmatum* alone, but also by the *R. undulatum* and *R. compactum*. It is cultivated on a large scale at Rheumpole, in the department of Morbihan. This species is in pieces resembling very much the exotic rhubarbs in appearance and shape, but they are easily distinguished from them by their exterior, which is slightly red.



Rheum palmatum

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and possessing a sweeter smell, being very slightly bitter, mucilaginous, and sweet, and principally for their not being gritty under the teeth.

The Russian and Chinese rhubarbs are very similar in their composition they contain a peculiar principle, to which they are indebted for their smell, taste, and color, which has been called RHABARBARIN; a small quantity of fixed sweet oil, some super-malate of lime, gum, starch, oxalate of lime in the proportion of one third of its weight, some lignin, and salts of lime and potassa. The French rhubarb differs from the others, inasmuch as it contains only one tenth of oxalate of lime, a larger proportion of starch, and a more considerable quantity of coloring principle, of a reddish hue. Alcohol dissolves 2·7 in 10 parts of rhubarb, ether 1·5, and boiling water almost one half. It is necessary to remark that this root loses part of its purgative properties by ebullition in water, and becomes more bitter and astringent.

Properties.—The root of this plant is a valuable and singular cathartic, differing from all others of the materia medica. It operates first by evacuating the intestinal canal, and then gently astringing or restoring the tone of it. Upon these singular properties combined (purgative and astringent), depend its utility in dysentery and diarrhœa. In cholera, its medicinal properties are heightened by the addition of an alkali; and in other disorders, depending upon a lax state of the muscular fibres of the intestines, together with the existence of an acrid state of the fluids, this preparation is exceedingly useful. Its operation in those disordered states of the bowels is, by neutralizing the acid, by evacuating the contents of the bowels, and then by gently astringing the relaxed fibres. I have often been astonished that this valuable plant should be so much neglected by physicians, particularly in bowel-complaints, and mercury substituted, when that mineral invariably injures, while the rhubarb almost invariably proves a sovereign remedy.

Employment.—The dose of the pulverized root is from 30 to 40 grains as a cathartic, or it may be given in the form of sirup or cordial, which renders it a very pleasant medicine. It forms the basis of our *Neutralizing Cordial* and *Mixture.*

Class X. Decandria.—Bearing flowers with but ten stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS ANDROMEDA.—Calyx 5-parted or 5-toothed, inferior; corol ovate, roundish, or sub-cylindric, with a 5-cleft reflexed mouth; capsule 5-celled, 5-valved, with partitions contrary.

NO. 144.—SORREL-TREE.

A. ARBOREA.—Branches terete; leaves oblong, acuminate, mucronate-serrate, glabrous; panicles terminal, many-spiked; corol ovate-cylindric, pubescent; anthers linear, beardless.

Description.—This is a beautiful indigenous tree, growing in the valleys of the Allegany mountains, from Pennsylvania to Florida. It rises to the height of about forty feet. The leaves have a pleasant acid taste, which has given the common name to the tree.

Properties and Uses.—The decoction of the leaves makes a grateful refrigerant drink in fevers. The Indians used a cold decoction, combined with wild cherry, in dropsy.

GENUS ARBUTUS.—Calyx inferior, 5-parted, minute; corol ovate, pellucid at the base; border small, 5-cleft, revolute; filaments hairy; berry 5-celled.

NO. 145.—UVA-URSI.

Common Names.—Bear-berry, Mountain-Box, Red-berry, &c

A. UVA-URSI.—Stem procumbent; leaves wedge-obovate, entire; berry 5-seeded.

Description.—Roots perennial, creeping, slender; stems procumbent, trailing, cespitose, radicate, the young shoots tending upward, cylindric, cuticle pealing off; leaves numerous, scattered, variable in shape, narrow or broad, always acute and alternate at the base, on short petioles, thick, coriaceous, evergreen, and smooth, shining above, pale beneath, margin entire, thick or rounded, and nearly obtuse; flowers nearly terminal in a small racemose cluster, from six to twelve together, of a pale, rosy, flesh color; peduncles shorter than the flowers, colored, reflexed, with some minute acute bracts, two of which are in the middle; calyx colored, with five rounded acute segments; corolla ovate, urceolate, white, with a rosy tinge, transparent at the base, contracted above, hairy inside, with five acute, short, and reflexed segments or teeth; ten equal stamina inserted at the base of the corolla, with hairy, short, cuneate filaments, anthers equal in length, bifid, each part with two pores; germ round, style straight, longer than the stamina, stigma obtuse; a black, indented, and persistent ring around the base of the germ, called nectary or gynophore; berries globular, depressed, of a scarlet color, pulp insipid, mealy, five seeds almost coalescent together.

Properties.—Astringent, tonic, and diuretic. It was extolled formerly in Europe as a remedy for gravel, but has since been found to be only a tolerable palliative in nephritis, gravel, and calculous cases. In strangury, acting as an astringent, it is useful even when other remedies fail. Drs. Wistar, B. Barton, Mitchell, Bigelow, &c., recommend it in those cases. It has also been used for leucorrhœa, gonorrhœa, catarrh of the bladder, menorrhagia, debility, diabetes, ennuresis, dysentery, ulcerations of the kidneys and bladder, to which diseases it has often given relief, and even cured them. It was likewise formerly recommended in pulmonary consumption, but it only abates the hectic fever. Much discrepancy is observable in authorities on this subject; but I am of opinion that a long-continued use of the article is necessary in order to be benefited, and in this administration its astringent propties must be borne in mind.

Employment.—The powder, decoction, or sirup, may be used. The doses are from 5 to 25 grains of the powder, or a wineglassful of the decoction every hour. A sirup of the leaves and berries is made in Sweden, which is preferable.

GENUS BAPTISIA.—Calyx 4 or 5 cleft half way, somewhat 2-lipped; corol papilionaceous; wings of the length of the reflexed banner; stamens caducous; legume inflated, smooth, many-seeded.

NO. 146.—WILD INDIGO.

Common Names.—Indigo-weed, Horse-fly weed, Yellow Broom, &c.

B. TINCTORIA.—Very glabrous and branching; leaves ternate, short-petioled; leaflets oblong, wedge-form, obtuse; stipules lanceolate, acute, twice as long as the petioles; racemes spiked, elongated; legumes acuminate.

Synonyms.—*Sophoria tinctoria*, Linn.; *Podolyria tinctoria*, Mx.

Description.—Root perennial, large, woody, irregular, blackish outside, yellowish inside; stems two or three feet high, round and smooth, yellowish-green, with black dots, very much ramified; branches thin, and with small leaves, which are alternate, with three folioles nearly sessile, obovate, smooth, of a bluish-green color; flowers bright yellow, in loose spikes at the end of branches; pea-like stamina, enclosed, deciduous; pistil single and stipitate, succeeded by a swelled oblong pod of a bluish-black color, with a row of small, rattling seeds.

This plant has the appearance of a small shrub or broom. It blossoms in July and August. The whole plant, even the flowers, often become black in the fall, or in a herbarium. It dyes a kind of blue, like indigo, but it is inferior. The young shoots of this plant are eaten in New England, like those of the poke, and like the latter article, they are of a drastic nature. The wild indigo is found all over the United States, from Maine to Louisiana, in woods and on hills. It prefers dry and poor soils, is unknown in rich, loamy soils, and is seldom met with in alluvions. The whole of this plant, but particularly the root, is nauseous, sub-acrid, sub-astringent, but inodorous. It is active and dangerous in its recent state, if taken internally; but it loses much of its activity if dried and boiled. The active principles of this article are but little known. It contains tannin, indigo, and an acid.

Properties.—Astringent, antiseptic, purgative, emetic, and stimulant, acting upon the absorbent and nervous systems, after increasing the secretions from all the glandular viscera, particularly from the liver, and is especially adapted to the atonic varieties of acute and sub-acute rheumatism, and the atonic variety of pneumonia. In the form of a poultice, it is very efficacious in inflammatory affections bordering upon gangrene. The corticle part of the bark is that which we use. It is good in syphilitic ulcers, malignant and ulcerous sore mouth and throat, mercurial sore mouth, sore nipples, chronic sore eyes, &c. It may be used externally, in strong decoction, as a wash, or in fomentation, poultice, or ointment, with lard or cream. It is one of the most powerful vegetable antiseptics in putrid disorders and in internal mortification. It stops gangrene, has cured scarlatina anginosa, inverted uterus, and sometimes putrid and typhus fevers. As a cathartic and emetic, it is inconvenient, and variable in its results.

Employment.—It forms the basis of our *Yellow Salve*, which is useful in various kinds of ulcers. It has been given in the form of decoction internally, at the dose of half an ounce of the decoction, made with twenty times its weight of water.

GENUS CASSIA.—Calyx 5-leaved; corol 5-petalled; anthers 3, lower ones beaked, and on longer incurved filaments; legume membranous.

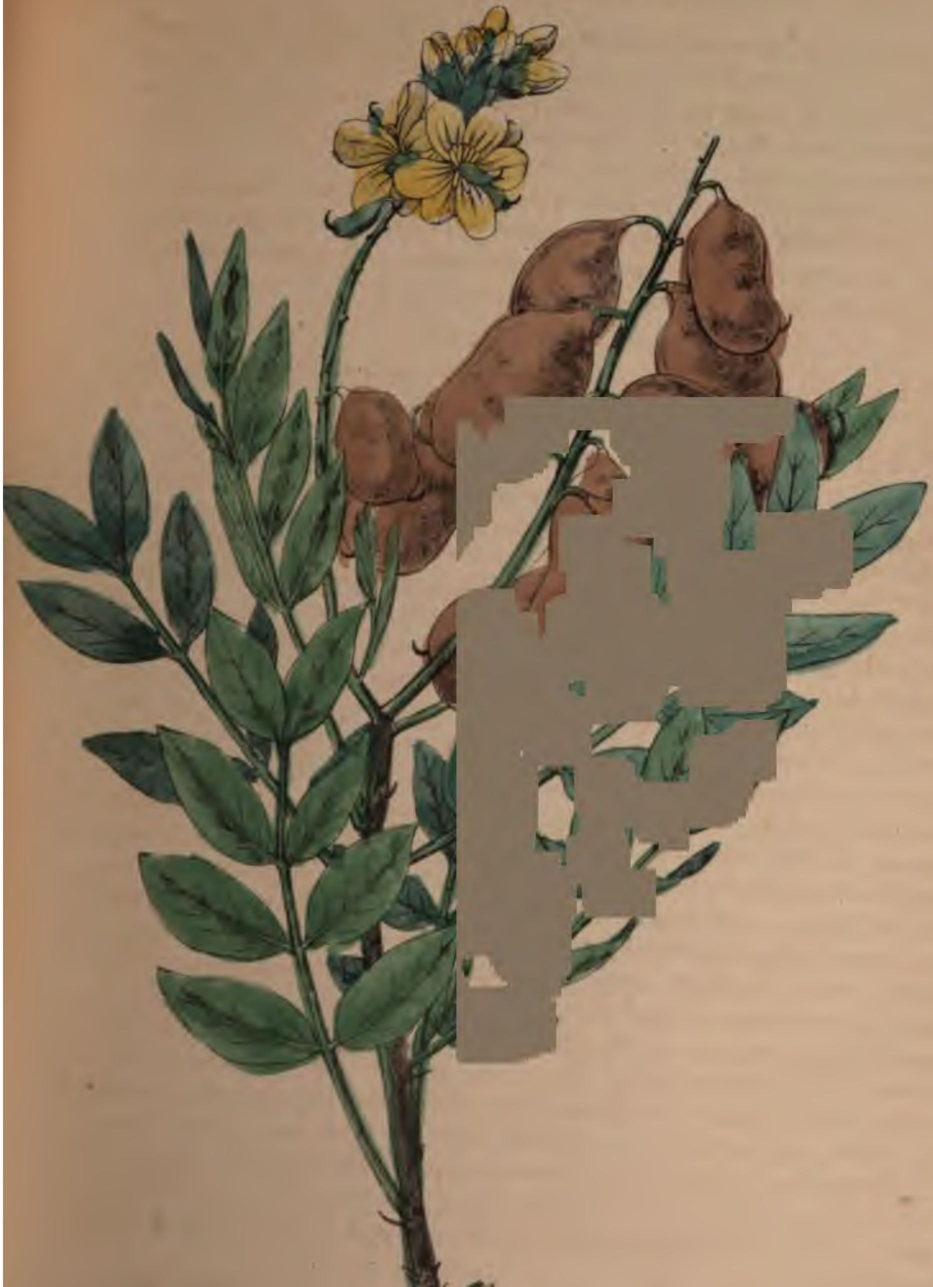
NO. 147.—AMERICAN SENNA.

Common Names.—Wild Senna, Locust-plant, &c.

C. MARILANDICA.—Somewhat glabrous; leaves in 8 pairs, lance-oblong, mucronate; flowers in axillary racemes and in terminal panicles; legumes linear, curved.

Description.—Root perennial, contorted, irregular, woody, black, fibrous; stems many, nearly smooth, upright, from three to six feet high, cylindrical and simple; leaves alternate, not many, large, horizontal; petioles compressed, channelled above, with an ovate-stipitate gland at the base, bearing from eight to ten pairs of folioles or leaflets, which are smooth, green above, pale beneath, with short uniglandular petioles, shape ovate, oblong, or lanceolate, entire, equal, mucronate at the end; stipules subulate, ciliate, deciduous. Flowers of a bright or golden yellow, forming a panicle, although partly axillary, and in short racemes, having each from five to fifteen flowers; peduncles furrowed, pedicels long, glandular, with short bracts; calyx colored, with five oval, obtuse, and unequal segments; petals five, spatulate, concave, obtuse, unequal, the two lower ones larger; stamina with yellow filaments and brown anthers; the three upper filaments have abortive anthers, the three lower ones are longest, crooked, with long rostated anthers, all the anthers open by a terminal pore; germ deflexed with the lower stamina and hairy; style ascending, stigma hairy. The fruits or pods are pendulous, linear, hardly curved, flat, and membranaceous, a little hairy, blackish, from two to four inches long, holding from twelve to twenty seeds or small brown beans. The senna-plant is found from Massachusetts to Missouri and Georgia, in rich, moist, and alluvial soils, growing principally near streams. It is very common in the western states, and is often cultivated in gardens for medical employment.

Properties and Uses.—The taste of the leaves is slightly nauseous, but they have no smell; they contain resin, extractive, and a volatile oil. The infusion and decoction have the taste of the plant; the distilled water is nauseous; the tincture is dark brown, and rendered turbid by water. All the sennas are simple cathartics. Some kinds occasion gripings, and yet are not



Caſsia Senna

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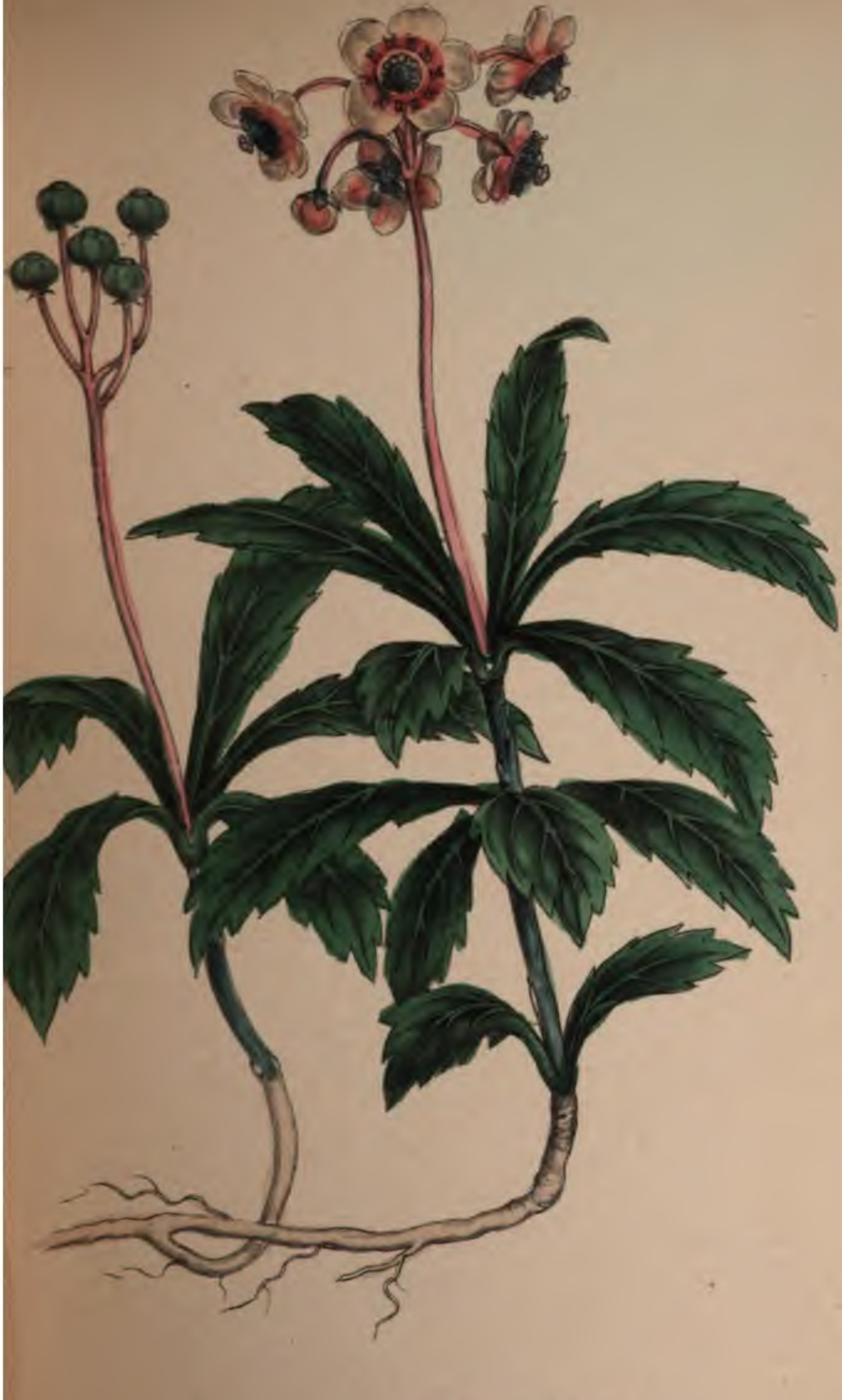

Chimaphila Umbellata.

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so active as rhubarb or jalap. This kind is not so active or certain as the Alexandria senna, but it operates with mildness and certainty at the dose of an ounce in decoction. Both the leaves and pods are employed: the infusion is weaker; the tincture is less available, although stronger. It shou enter into compound laxatives and cathartics, which is the best mode administration, being combined with aromatic articles to prevent its griping effects.

NO. 148.—ALEXANDRIA SENNA.

C. SENNA.—Leaflets 4 to 6 pair, sub-ovate; petioles without glands; stipules spreading; pods oval, oblong, bent upward.

Description.—The stalk rises from two to four feet in height, resembling a shrub, and sending out hollow, woody stems; leaves in alternate order, and compound, composed of several pairs of oval, pointed, and nerved pinnæ, of yellowish-green color; flowers yellow, forming a spike, consisting of five petals; the pod is covered and short, bivalved with several cordiform seeds, contained in separate cells.

Properties.—Senna, according to Lassaigne and Feneulle, contains a peculiar substance, called CATHARTIN, some chlorophyllin, a fatty oil, a small quantity of volatile oil, a yellow coloring principle, albumen, and salts of lime and potassa. Water and alcohol dissolve its active properties.

Cathartin seems to be the active principle of senna: it is neither acid nor alkaline, and does not crystallize; it is slightly deliquescent, of a reddish-yellow color, a peculiar odor, and a bitter and nauseous taste. It dissolves in water and alcohol, but not in ether. When heated, it becomes rapidly decomposed. It has not, as yet, been introduced into practice.

This is a very useful carthartic, operating effectually and mildly; but it is necessary to combine it with other ingredients, to prevent its griping effects. This article enters into the *Anti-bilious Physic* and the *Worm* or *Vermifuge Powders* of our pharmacopœia.

Employment.—It is principally administered in the form of infusion. Take of senna-leaves, one and a half ounces; ginger-root, sliced, a dram; boiling water, one pint. Macerate for an hour, in a covered vessel, and strain the liquor.

GENUS CHIMAPHILA.—Calyx 5-parted; petals 5; anthers beaked, with two pores at the base before, and at the top after, the opening of the flower; style immersed; stigma thick, orbiculate; capsule 5-celled, dehiscent at the angles near the summit.

NO. 149.—PRINCE'S PINE.

Common Names.—Pipsisseway, Ground-Holly, Rheumatism-weed, &c.

C. UMBELLATA.—Leaves serrate, uniformly green, wedge-lanceolate, with an acute base; scape corymbed; filaments glabrous.

Description.—This evergreen plant usually grows on land thinly timbered with chestnut, oak, and pine; in some places in abundance. It rises six or eight inches from the ground, where a number of thick, deep-green leaves, notched about the edge, surround the stalk; and on some of the plants a slim, smooth stem rises four or five inches above the leaves, bearing on its top an umbel of blossoms, succeeded by seed-vessels like flax-bowls. The root is long, slender, and white, and frequently supports a number of the plants.

Properties.—It is highly recommended for curing chronic rheumatism, gout, sciatica, and similar affections; for relieving, and, if persevered in, entirely curing gravel and gravelly obstructions of the urine; and for all the purposes of cleansing the humors and purifying the system. This plant is diuretic, tonic, and astringent, and in its therapeutic as well as botanic character is very closely allied to the *Uva-ursi*. It may be used in the same way in the fulfilment of like indications. In addition, however, to the virtues ascribed to the article just spoken of, prince's pine is also possessed of active anti-scorbutic powers.

Employment.—A pound of the dried herb may be tinctured in a gallon of spirits, and a wineglassful taken three times a day for rheumatism. For other complaints it may be prepared in decoction.

GENUS EPIGÆA.—Calyx double, outer 3-leaved, inner 5-parted; corol salver-form; border 5-parted, spreading; tube villose within; capsule 5-celled, many-seeded; receptacle 5-parted.

NO. 150.—GRAVEL-PLANT.

Common Names.—Trailing Arbutus, &c.

E. REPENS.—Stem creeping; branches and petioles very hirsute; leaves cordate-ovate, entire; corol cylindric.

Description.—This is a small, trailing, and creeping plant, growing from Canada to the Carolinas, on shady rocks and in stony woods. Its flowers are white, tinged with red, very fragrant, and appearing from May to July.

Properties and Uses.—It is a powerful diuretic, used in decoction for gravel, stone in the bladder and kidneys, and many affections of the urinary organs.

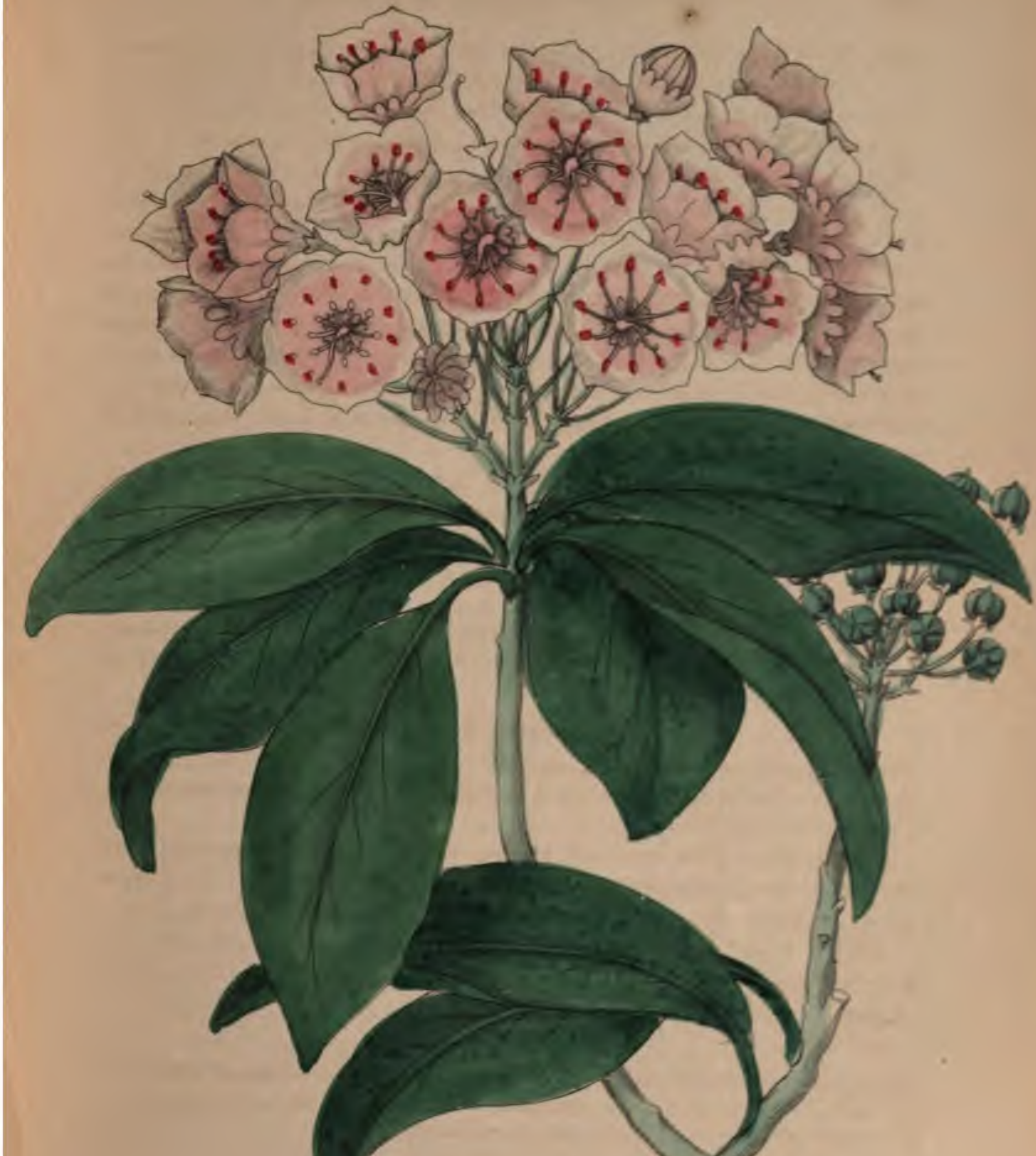
GENUS GAULTHERIA.—Calyx inferior, double, outer 2-leaved, inner 5-cleft; corol ovate; border small, 5-cleft, revolute; filaments hairy; receptacle 10-toothed; capsule 5-celled, invested with the inner berry-like calyx.

NO. 151.—WINTERGREEN.

Common Names.—Mountain-Tea, Tea-berry, &c.

G. PROCUMBENS.—Stem procumbent; branches erect; leaves obovate, acute at the base; flowers few, nodding; berries red, consisting in part of the permanent calyx; a little mealy; pleasant-tasted.

Description.—This pretty little evergreen is found in pine woods, and on hills and mountains, beneath the shade of trees. It is scattered over the country from Canada to Georgia, and grows in large beds, delighting in a dry,



Kalmia Latifolia.

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cold soil. It is known in different places by the names of partridge-berry, deer-berry, box-berry, grouse-berry, and mountain-tea. It is also called checker-berry, but this name more properly belongs to the *Mitchella repens*, which has a creeping stem, and small round leaves, about the size of the finger-nail.

The spicy wintergreen has a creeping root, and small, round stems, of a reddish color, and four or five inches high. These are crowned at the summit with a tuft of unequally-sized leaves, which are tapering at both ends, and bordered with a few minute teeth, terminating in bristly and scarcely-perceptible points. The flowers are white, drooping, and contracted at the mouth, appearing from June to September. The berries are red, about the size of a pea, and of a spicy and agreeable taste.

This plant has long been known and used in the country as a pleasant and common drink by the name of mountain-tea. The berries have a peculiarly grateful flavor, although they are rather dry. They are eaten with avidity by deer, rabbits, partridges, grouse, and various other kinds of game, and impart a fine flavor to their flesh in the fall and winter when ripe.

Properties.—The whole plant has a peculiar taste and smell, aromatic and sweet. It contains sugar, tannin, mucilage, and an essential oil, in which reside its taste, smell, and properties. This oil is very heavy, sinking in water, yet volatile, perfectly transparent, of a reddish-white color, aromatic, sweet, and highly pungent, and containing a peculiar principle, called GAUTIERINE. The plant is stimulant, anodyne, astringent, emmenagogue, antispasmodic, diaphoretic, lacteal, cordial, &c. It is a popular remedy in many parts of the country.

Employment.—It is generally used as a tea, but the essence and oil possess in an eminent degree all the properties of the plant, and are kept in the shops. The tea is employed as a palliative in asthma, to restore strength, and promote menstruation; also in cases of debility, in the secondary stage of diarrhœa, and to promote the lacteal secretion of the breast, &c. It is a very agreeable and refreshing beverage, and by some much preferred to imported China tea. The oil and essence, prepared by dissolving it in alcohol, are employed whenever warm and cordial stimulants are required. The oil cures the toothache, or allays the pain of carious teeth, like other strong essential oils. The Indians make great use of this plant as a stimulant, restorative, cordial, &c. It is injurious in fevers.

GENUS KALMIA.—Calyx 5-parted; corolla hypocrateriform, 5-lobed, with ten cavities; 10 stamina; anthers lodged in the cavities; 1 pistil, style, and stigma; capsule 5-celled, many-seeded.

NO. 152.—LAUREL.

Common Names.—Mountain-Laurel, Lamb-kill, Spoon-wood, &c.

K. LATIFOLIA.—Leaves clustered, petiolate, oval-lanceolate, acute, entire; corymbs terminal, viscid, and pubescent.

Description.—This is an indigenous shrub, growing from four to ten feet high. The leaves are evergreen, thick, coriaceous, very smooth, lucid above, pale beneath, entire, acute at both ends, on short petioles, and growing at the end of the branches in clusters; flowers very beautiful, in terminal compound corymbs, trichotome, pubescent, viscid, with small sublate tracteas; corolla of a rose-color, tube short, limbus like a cup, with five short, acute lobes; ten long staminas, lodging their antlers in the ten cavities of the corolla.

This beautiful genus of evergreen shrubs is peculiar to North America, dedicated to Kalm, a Swedish traveller and botanist. Several species belong to it, all highly valued as ornamental shrubs for gardens: this is the largest and most splendid species. Their vernal blossoms are beautiful but scentless. The *Kalmia latifolia* grows on mountains and hills throughout the United States, and produces many varieties.

Properties.—This shrub has been by many deemed poisonous to men and cattle. It is certainly deleterious to horses, calves, and sheep, feeding on it in winter, because indigestible to them. Sheep, if not soon relieved by oil, will swell and die; yet deer and goats feed on the leaves, and can digest them. The American partridge, feeding on the buds in the winter, is said by some to become deleterious as food. Bees collect honey from the flowers. The wood is soft when fresh, but becomes hard and dense, somewhat similar to box, and is much used for tools, instruments, and spoons: hence one of its common names. The kalmia is of very slow growth, and lives a century or more.

All the species of this genus have equal properties, being narcotic, errhine, anti-syphilitic, anti-herpetic, &c. They are rather dangerous internally, if it be true that the Indians killed themselves by a strong decoction of it, but are more useful applied externally. The powdered leaves are employed in tinea capitis and in some fevers; with lard, they form a good ointment for herpes. Bigelow found in them tannin, resin, and mucilage only; yet Thomas asserts their narcotic qualities, and that the decoction, even in small quantities, produced vertigo. Elliot states that the negroes of the Carolinas use some of the species in a strong wash to cure the itch of men and dogs; it causes severe smarting, but effectually cures the complaint. It has also been used in psora and other cutaneous affections. It has been employed in syphilis, in the secondary symptoms. The powder of the leaves and seeds is errhine. Their tincture is powerful and dangerous, a few drops being sufficient to kill a rattlesnake.

Employment.—The powdered leaves, as a snuff in catarrh, we think very useful and efficacious; and the decoction as above indicated, in a wash.

GENUS LEDUM.—Calyx small, 5-toothed; corol flat, 5-petalled or 5-parted; stamens exsert, anthers opening by two terminal pores; capsule-5-celled, dehiscent at the base, 5-valved, valves with approximating, inflexed margins; receptacle 5-lobed; columella 5-angled, pedicelled; seeds numerous, winged.

NO. 153.—LABRADOR-TEA.

L. LATIFOLIUM.—Leaves linear-oblong, folded in at the margin, iron-rust down beneath; stamens mostly 5, equalling the corol.

Description.—This is an indigenous plant which grows in damp situations in all the northern parts of the United States and in the Canadas.

Properties.—The leaves have an agreeable odor and taste, and are pectoral and tonic. They may be usefully employed to allay febrile irritation in hooping-cough; also in dysentery and various cutaneous diseases and complaints of the skin.

Employment.—Generally used in infusion, and it is said that during the revolutionary war the leaves were substituted for the common tea.

GENUS MONARDA.—Calyx 5-toothed, cylindric, striate; corolla ringent, with a long cylindric tube; upper lip linear, nearly straight, entire, involving the filaments, lower lip reflected, broader, 3-lobed, the middle lobe longer.

NO. 154.—MONARDA.

Common Names.—Horsemint, &c.

M. PUNCTATA.—Smoothish; flower middling size, whorled; bracts lanceolate, colored, longer than the whorls; leaves lance-oblong, remotely serrate; stem obtuse-angled, with whitish down.

Description.—This is an indigenous perennial or biennial plant, with herbaceous, obtusely-angled, downy, whitish, branching stems, which rise one or two feet in height, and are furnished with oblong-lanceolate, remotely-serrate, smooth, punctate leaves. The flowers are yellow, spotted with red or brown, and are disposed in numerous whorls, provided with lanceolate, colored bracts, longer than the whorl.

The horsemint grows in light gravelly or sandy soils from New Jersey to Louisiana, and flowers from June to September. The whole herb is employed. It has an aromatic smell, and a warm, pungent, bitterish taste; and abounds in a volatile oil, which may be separated by distillation with water.

Properties.—It is stimulant and carminative, but is seldom used in regular practice.

Employment.—In the state of infusion it is occasionally employed in families as a remedy for flatulent colic and sick stomach, and for other purposes to which the aromatic herbs are applied. It was introduced into the primary catalogue of the "United States Pharmacopœia" on account of the volatile oil which it affords.

GENUS MONOTROPA.—Corol confusedly polypetalous, permanent; petals about 5, with nectariferous hollows at their bases; anthers reniform, sub-peltate, 1-celled, giving ont pollen by two holes near the middle; stigma orbicular, not bearded; capsule 5-celled, 5-valved.

NO. 155.—FIT-ROOT.

Common Names.—Pipe-plant, Indian Pipe, Bird's-nest, Ice-plant, &c.

M. UNIFLORA.—Stem 1-flowered; flower nodding at first, at length erect; scales of the stem approximate.

Properties and Employment.—This plant is ophthalmic and nervine. The juice of the fresh herb, mixed with water, is good for sore eyes. The pulverized root, in teaspoonful doses, is used in epilepsy and convulsions of children. It is also often combined with valerian for nervous affections, and is a useful agent in the cure of inveterate ophthalmia.

GENUS RUTA.—Calyx 5-parted, petals concave; receptacle surrounded by ten melliferous points; capsule lobed.

NO. 156.—RUE.

R. GRAVEOLENS.—Leaves more than decompound; leaflets oblong, terminal ones obovate; petals entire.

Description.—Common rue is a perennial plant, usually two or three feet high, with several shrubby, branching stems, which near the base are woody and covered with a rough bark, but in their ultimate ramifications are smooth, green, and herbaceous. The leaves are doubly pinnate, glaucous, with obovate, sessile, obscurely crenate, somewhat thick and fleshy leaflets; the flowers are yellow, and disposed in a terminal branched corymb upon subdividing peduncles; the calyx is persistent, with four or five acute segments; the corolla consists of four or five concave petals somewhat sinuate at the margin; the stamens are usually ten, but sometimes only eight in number. The plant is a native of the south of Europe, but cultivated in our gardens. It flowers from June to September.

The whole herbaceous part is active, but the leaves are usually employed. These have a strong, disagreeable odor, especially when rubbed; their taste is bitter, hot, and acrid. In the recent state, and in full vigor, they have so much acrimony as to inflame and even blister the skin, if much handled; but the acrimony is diminished by drying. Their virtues depend chiefly on a volatile oil, which is very abundant, and is contained in glandular vesicles, apparent over the whole surface of the plant. Besides volatile oil, they contain, according to Mähl, chlorophylle, albumen, an azotized substance, extractive, gum, starch or inulin, malic acid, and lignin. Both alcohol and water extract their active properties.

Properties.—Rue is stimulant and anti-spasmodic, and, like most other substances which excite the circulation, occasionally increases the secretions, especially when they are deficient from debility. It appears to have a tendency to act upon the uterus; in moderate doses proving emmenagogue, and in larger doses producing a degree of irritation in that organ which sometimes determines abortion. Taken in very large quantities, it acts as an acrid narcotic poison. Three cases are recorded by Dr. Hélie in which it was taken by pregnant women, with the effect of producing dangerous symptoms of gastro-intestinal inflammation and cerebral derangement, which lasted for several days, but from which the patients ultimately recovered. In each of these cases miscarriage resulted. Great depression and slowness of the pulse attended the narcotic action of the poison. Rue is sometimes used in hysterical affections, flatulent colic, and amenorrhœa, particularly in the last complaint. It has also been given in worms. The ancients employed it as a condiment, and believed it to possess, besides other valuable properties, that of resisting the action of poisons. Its excitant and irritating properties require that it should be used with caution.

Employment.—The dose of the powder is from 15 to 30 grains two or three times a day. The medicine is also given in infusion and extract. In one of the cases of poisoning above mentioned, three fresh roots of the size of the finger were taken in the form of decoction.

Order 33. Digynia.—Bearing flowers with but two styles or sessile stigmas.

GENUS MITELLA.—Calyx 5-cleft, permanent; petals 5 on the calyx, pinnatifid; capsule 1-celled, 2-valved, valves equal.

NO. 157.—COOLWORT.

Common Names.—Mitre-wort, &c.

M. CORDIFOLIA.—Leaves round-reniform, doubly crenate, with scattered hairs above; scape erect or prostrate, naked or 1-leaved.

Description.—This plant is found in woods, on shady banks, and in rich cedar-swamps, where the ground is not very wet. The leaves are heart-shaped, divided into lobes, bordered with roundish teeth, hairy on both sides, and supported on foot-stalks eight or ten inches high. The flowers are white, and make their appearance in June. They are arranged in a spike, about an inch long, on the top of a naked stem. The green leaves of the coolwort are remarkable for having the taste and smell of a cucumber. They should be collected in July, or about the first of August, and dried without exposure to a damp atmosphere.

Properties.—Coolwort is a diuretic, and is beneficial in gravelly complaints, gonorrhœa, and suppression of urine. In all cases where the urine is acrid, or thick and high-colored, it may be used with advantage. In burning or scalding of the urine, also, it rarely fails to afford relief in two or three hours. It is employed with advantage in affections of the liver, dyspepsia, and acidity of the stomach. In the latter complaint, it appears to counteract the acidity, and to restore the stomach to a healthy tone. Women who are troubled with strangury soon after confinement, as happens now and then, will derive great benefit from the use of this plant.

Employment.—The infusion, prepared by steeping a handful of the dried leaves in a quart of boiling water, may be employed freely as a drink.

GENUS SAPONARIA.—Calyx inferior, 1-leafed, tubular, 5-toothed, without scales; petals 5, with claws; capsule oblong, 1-celled.

NO. 158.—SOAPWORT.

Common Names.—Bouncing Bet, &c.

S. OFFICINALIS.—Calyx cylindric; leaves lance-ovate, opposite, sub-counate, entire.

Description.—This is a perennial herbaceous plant, growing wild in this country, in the vicinity of cultivation, but probably introduced from Europe. It is commonly known by the vulgar name of *Bouncing Bet.* It grows to the height of one or two feet, with smooth, lanceolate leaves, and clusters of conspicuous whitish or slightly-purplish flowers, which appear in July and August.

Properties.—The root and leaves are employed. They are inodorous, and of a taste at first bitterish and slightly sweetish, afterward somewhat pungent, continuing long, and leaving a slight sense of numbness on the tongue. They impart to water the property of forming a lather when agitated, like a solution of soap, whence the name of the plant was derived. This property, as well as the medical virtues of the plant, reside in a peculiar extractive matter, obtained from the root by Buchholz, and called by him SAPONIN. This principle constitutes, according to Buchholz, 34 per cent. of the dried root, which contains also a considerable quantity of gum, and a little bassorin, resin, and altered extractive, besides lignin and water. Saponin is obtained, though not absolutely pure, by treating the watery extract with alcohol and evaporating. It is brown, somewhat translucent, hard and brittle, with a sweetish taste, followed by a sense of acrimony in the fauces. It is soluble in water and officinal alcohol, but is insoluble in anhydrous alcohol, ether, and the volatile oils. Soapwort has been much used in Germany as a remedy in venereal and scrofulous affections, cutaneous eruptions, and visceral obstructions. It appears to act as an alterative, like sarsaparilla, to which it has been deemed superior in efficacy by some physicians.

Employment.—The plant is given in the forms of decoction and extract, which may be freely taken. From two to four pints of the decoction daily are recommended in lues. The inspissated juice, given in the quantity of half an ounce in the course of a day, is said by Andry generally to cure gonorrhœa in about two weeks, without any other remedy.

Order V. Pentagynia.—Bearing flowers with but five styles or sessile stigmas.

GENUS CERASTIUM.—Calyx 5-leaved; petals 5, 2-cleft, or emarginate; capsule 1-celled, dehiscent at the top, 10-toothed.

NO. 159.—CHICKWEED.

C. VULGATUM.—Hirsute, viscid, cespitose; leaves ovate; petals-oblong, about equal to the calyx; flowers longer than the peduncle.

Description.—This plant is too well known to need a particular description. It is the gardener's greatest enemy, springing up spontaneously wherever he may lay out his beds.

Properties and Uses.—The best use that can be made of this plant is in ointment, as a cooling application to inflammatory swellings. Some German physicians, however, affirm that this article, combined with elecampane, is a specific in hydrophobia. I administered it in a case, and the patient recovered.

GENUS OXALIS.—Calyx permanent, 5-parted or 5-leaved, inferior; petals 5, cohering by the claws; capsule 5-celled, 5-cornered, dehiscent at the corners; seeds 2 or more in a cell, covered with an elastic aril; stamens with 5 shorter, outer ones, adhering at their bases.

NO. 160.—WOOD-SORREL.

Common Names.—Sour Trefoil, Cuckoo-bread, Mountain-Sorrel, &c.

O. ACETOSELLA.—Stemless; scape 1-flowered, longer than the leaves; leaves ternate, broad-obcordate, with rounded lobes; styles as long as the inner stamens; root dentate.

Description.—Roots perennial, creeping, white, juicy, with some little fleshy knobs; leaves nearly radical, on long, slender, filiform, hairy petioles; three folioles, sub-sessile, more or less pilose, ciliated, obcordate, broad, glaucous beneath; scapes similar and equal to the petioles, with two small, adpressed bracts on the middle; one terminal flower, white, with purple veins; the five longest stamina equal to the styles.

This plant is scattered over both continents, in woods, groves, and hedges, but in America it seems confined to the boreal and mountain regions, and is found throughout the United States in the localities above indicated. It blossoms in summer.

Properties and Uses.—The leaves are acid, refrigerant, attenuant, antiputrid, and diuretic. They are useful in decoction as a cooling drink in inflammatory disorders, fevers, piles, putrid diseases, &c. Boiled in milk, they form a good and very cooling acid whey. They may also be eaten as salad. They are peculiarly useful in diseases of the kidneys, bladder, and urethra, when they are inflamed and painful, acting as a cooling diuretic.

They are often substituted for common sorrel and sheep-sorrel; but they must not be eaten to excess, because they contain a violent poison, the oxalic acid—in small quantity, however, since one hundred pounds of leaves give only thirty pounds of juice, and this only ten ounces of the super-oxalate of potash, which is sold and used by the wrong name of *salt of lemons*, for making a bad and dangerous imitation of lemonade, and for taking off ink-stains from linen, cloth, and paper. A good conserve and sirup of oxalis-leaves were formerly made, which were pleasant medical preparations; they are now, however, superseded by currant-jelly and other preparations of acid fruits.

Order X. Decagynia.—Bearing flowers with but ten styles or sessile stigmas.

GENUS PHYTOLACCA.—Calyx none; corol 5-petalled or 5-cleft, calyx-like, inferior; berry 10-celled, 10-seeded.

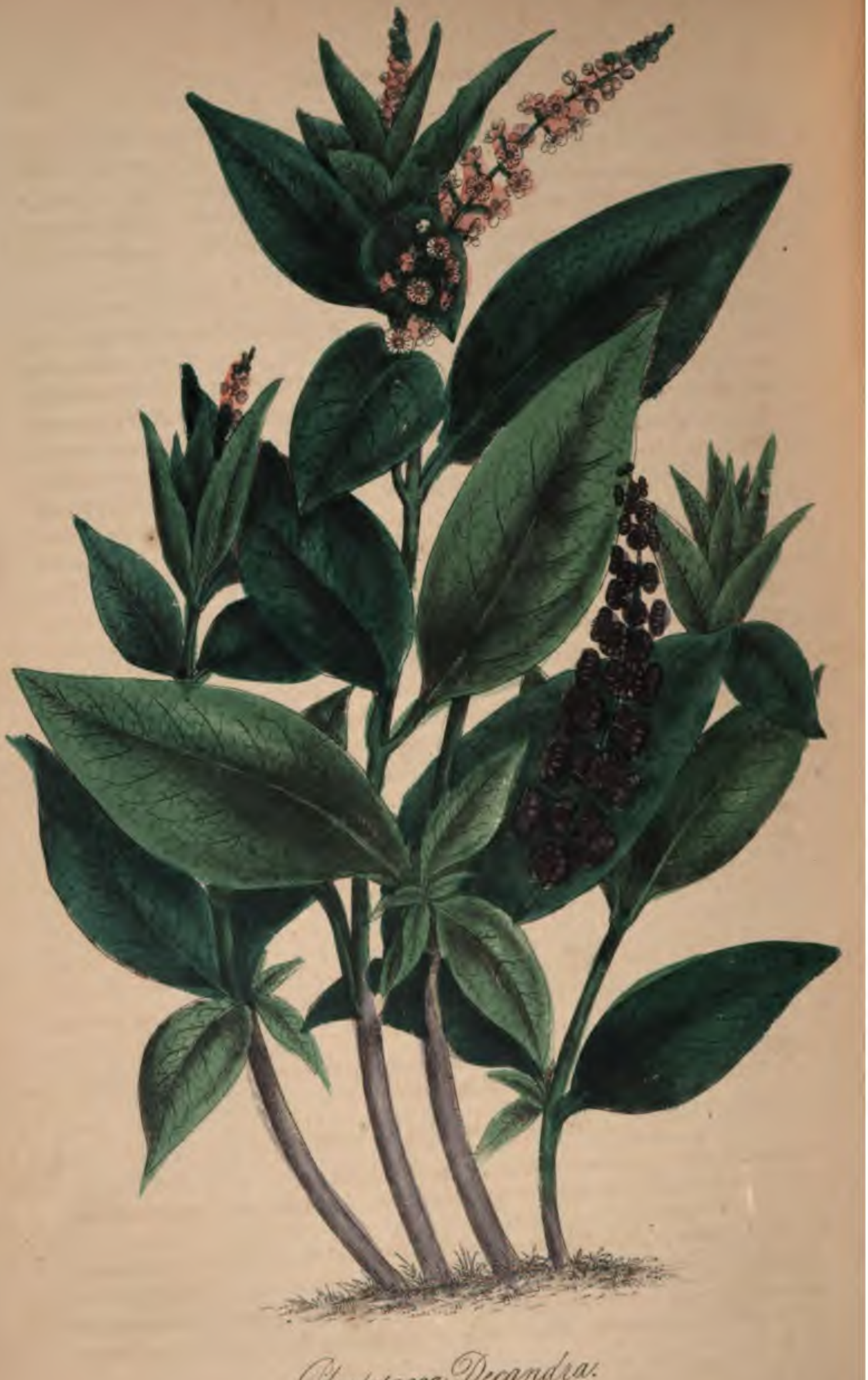
NO. 161.—POKE-WEED.

Common Names.—Garget, Coakum, Pigeon-berry, &c.

P. DECANDRIA.—Leaves ovate, acute at both ends; flowers racemed; berries flattened at the ends.

Description.—This is an indigenous plant, with a very large perennial root, often five or six inches in diameter, divided into two or three principal branches, soft, fleshy, fibrous, whitish within, and covered with a brownish cuticle. The stems, which are annual, frequently grow to the height of six or eight feet, and divide into numerous spreading branches. They are round, very smooth, of a green color when young, but purple after the berries have ripened. The leaves are scattered, ovate, oblong, entire, pointed, smooth, ribbed beneath, and supported on long foot-stalks. The flowers are numerous, small, and grow in long racemes, which are sometimes erect, sometimes drooping; the corolla consists of five ovate, concave petals, folding inward, and of a whitish color. The germ is green. There are ten stamens, and the same number of pistils. The raceme of flowers becomes a cluster of dark-purple, almost black, shining berries, flattened above and below, and divided into ten cells, each of which contains one seed.

The poke is abundant in all parts of the United States, flourishing along fences, by the borders of woods, and especially in newly-cleared and uncultivated fields. It also grows spontaneously in the north of Africa and the south of Europe, where, however, it is supposed to have been introduced from America. Its flowers begin to appear in July, and the fruit ripens in autumn. The magnitude of the poke-weed, its large rich leaves, and its beautiful clusters of purple berries, often mingled upon the same branch with the green unripe fruit, and the flowers still in bloom, render it one of the most striking of our native plants.



Phytolacca Decandra.

Properties.—The root abounds most in the active principles of the plant. It should be dug up late in November, cut into thin transverse slices, and dried with a moderate heat. As its virtues are diminished by keeping, a new supply should be procured every year. The berries should be collected when perfectly ripe, and the leaves about the middle of summer, when the foot-stalks begin to redden.

This is a valuable active plant. The root is emetic, cathartic, and somewhat narcotic. In doses of from ten to thirty grains of the dry powder, it is safe, but is too powerful in larger quantities. The young shoots and leaves are eaten like asparagus and spinach. The old leaves are considered acrid and purgative. The stems and leaves contain more potash than any other plant, producing 67 per cent. by burning, and 42 per cent. of pure caustic potash by lixivation. It has a peculiar acid, called PHYTOLACIC, resembling malic acid. The fresh roots and leaves are escharotic and discutient; employed in the form of poultice, they are regarded as a specific for cancerous or malignant ulcers, psora, tinea capitis, &c. They are also beneficial in extract, or as a plaster, a wash of rumex being used at the same time. The juice of the berries is alterative, and a specific for chronic and syphilitic rheumatism, a tablespoonful to be taken every four hours. The berries are sweetish, nauseous, and sub-acrid.

Employment.—The root is very valuable to discuss scrofulous and indurated abscesses; to be covered with tow and roasted, and then applied. The dry root in powder, mixed with slippery elm, in a poultice, is used for the same purposes. The pulverized root, combined with blood-root, is excellent as snuff in polypus of the nose. A strong decoction of equal parts of this and blood-root and sumach bark or berries makes a good liquid to inject in the sinus of a fistula, and in the vagina for cancer and ulcers of the womb.

Class XI. Icosandria.—Bearing flowers with eleven stamens.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS ASARUM.—Leaves broad kidney-form, in pairs; calyx woolly, deeply 3-parted; divisions sub-lanceolate, reflected.

NO. 102.—WILD GINGER.

Common Names.—Canada Snake-root, False Colt's-foot, &c.

A. CANADENSE.—Leaves 2, reniform; calyx woolly, cleft to the base; segments spreading at the top.

Description.—The *Asarum canadense* grows in old woods and mountainous tracts from Canada to the Carolinas. It is one of the humblest plants, presenting only two leaves with their stalks, which appear to constitute the whole of the plant above the ground. On plucking the plant, the two leaves are found connected below, with an obscure flower in their fork, which had rested on the surface of the ground, or been buried under the decayed leaves and soil. Its flowering time is from May to July.

This plant, from the number of its stamens, is placed by Linnæus and Michaux in the class *Dodecandria.* Pursh, who has omitted this class in his "Flora," has transferred the asarums to Gynandria, from the circumstance that the stamens are inserted on the germ. This place, however, is not better suited to the asarum than to a multitude of other plants whose germ is inferior.

The root of the asarum is creeping, fleshy, and somewhat jointed; leaves kidney-shaped, pubescent on both sides, with long, round, hairy petioles; flower solitary, growing from the fork of the stem, on a pendulous hairy peduncle; calyx very hairy or woolly, consisting of three broad, concave leaflets, which are mostly of a brownish or dull purple on the inside at top and bottom, and terminated by a long, spreading, inflected point, with reflexed sides. The color varies greatly according to the amount of light which the plant enjoys, being sometimes nearly green. The stamens are twelve, inserted on the germ at a distance from the calyx, the alternate ones longer; anthers growing to the filaments below their extremity. Near the divisions of the calyx are three short, curved, filamentary substances, which may perhaps be called nectaries; germ inferior, somewhat hexagonal, marked at top inside with a dark-red line; style conical, striate, parted at top into six recurved, radiating stigmas.

Properties.—The properties of this mild aromatic have been so far misconceived, probably from its relation to a European species, that it would be improper to pass over it without notice of its character. It affords a striking exception to the rule that botanical affinities are capable of indicating the medicinal qualities of vegetables. This plant, in its effect on the human system, is widely different from the European *Asarabacca,* although it approaches it so nearly in its form, that Michaux styles it "*Vix distinctum ab Europæo.*"

The root of the asarum has an agreeable aromatic taste, which is intermediate between that of ginger and the *Aristolochia serpentaria.* This quality has given it the names of wild ginger and snake-root in different sections of the country. The name colt's-foot, is also applied to it. The chemical trials to which the root has been subjected bring to view the following substances: 1. A light-colored, pungent, volatile oil, possessing the characteristic taste and smell of the plant in a high degree. 2. A resin, which is of a reddish color, and very bitter. These two constituents communicate to alcohol the active properties of the plant. 3. Fecula. 4. A gummy mucus. These exist in such quantities as to impede the filtration of the decoction. Astringency hardly exists in this root, as a gelatinous solution gives no evidence of tannin, and the sulphate of iron produces a green color hardly bordering on black.

"It has been asserted," says Dr. J. Bigelow, "and the statement copied from one book to another, that the *Asarum canadense* is a powerful emetic. I presume that subsequent writers have taken their opinion from Cornutus, who, in his 'Plants of Canada,' informs us that two spoonfuls of the juice of the leaves of the asarum (meaning the European plant, rather than the American) are found to evacuate the stomach powerfully. I can hardly doubt that if such an operation has really been produced from the Canadian species, it must have taken place in irritable stomachs, to whom two spoonfuls of any crude vegetable juice would have proved emetic. Having seen the root of this plant used in the country in considerable quantities as a sudorific, I was long since induced to doubt its emetic power. Subsequent experience has satisfied me that the freshly powdered root, given to the extent of half a dram, and probably in still larger quantity, excites no vomiting, nor even nausea.

"Still, however, the plant deserves not to be discarded from use. The aromatic flavor of the root is more agreeable than that of the *Aristolochia serpentaria*, which article it seems to resemble in its medicinal powers. Several country practitioners, who have employed it, have spoken to me favorably of its effect as a warm stimulant and diaphoretic. As a substitute for ginger, in common domestic use, I know of no indigenous article which promises so fairly as this."

Alcohol is the proper solvent for the active properties of this plant. The tincture has a dark-red color, and a highly concentrated taste of the root; and is the best form in which it can be used.

GENUS AMYGDALUS.—Calyx inferior, 5-cleft; corol 5-petalled; drupe with a nut perforated with pores.

NO. 163.—ALMOND.

A. COMMUNIS.—Lower teeth of the leaves glandular; flowers in pairs, sessile.

Description.—The almond-tree rises to the height of twelve feet or more. Its flowers are of a pale pink color, appearing before the leaves, and are placed in pairs upon its branches; the leaves are elliptic, narrow, pointed at the end, minutely sawed, standing upon short foot-stalks. It flowers early in the spring, and nearly resembles the peach-tree.

The almond originally came from Syria and Barbary, but is now much cultivated in the south of Europe. That it was well known to the ancients, is evident: we find it mentioned in Genesis xliii. 11; and Hippocrates employed both the sweet and bitter almonds, as well as their expressed oils.

The almond is a flattish kernel, of a white color, and of a soft, sweet taste, or a disagreeable, bitter one. The oil, which is the principal part used in medicine, is of a greenish-white color, and of a smell analogous to that of sweet almonds. This oil turns rancid with the greatest facility. Its composition does not differ from that of the fixed oils in general.

Properties.—Bitter almonds yield a large quantity of oil, perfectly similar to that obtained from sweet almonds, but the matter remaining after the expression of the oil is more powerfully bitter than the almond in its entire state. A great part of the bitter matter dissolves by the assistance of heat, in both water and rectified spirit; and a part rises also with both menstrua in distillation. Bitter almonds have long been known to be poisonous to various brute animals, and some authors have alleged that they are also deleterious to the human species, but the facts recorded upon this point appear to want further proof. However, as the noxious quality seems to reside in that matter which gives it the bitterness and flavor, it is very probable that when this is separated by distillation, and taken in a sufficiently concentrated state, it may prove a poison to man, as is the case with the common laurel, to which it appears extremely analogous.

The oil of almond is serviceable in tickling coughs, hoarseness, &c. It acts likewise upon the urinary organs, in the scalding of urine; and in the diseases of the kidneys, especially when combined with other remedies, it is peculiarly serviceable. Externally, it is applied against tension and rigidity of particular parts. The milky solutions of almonds in watery liquors, usually called emulsions, possess in a certain degree the emollient qualities of the oil, and have this advantage over pure oil, that they may be given in acute or inflammatory disorders without danger of the ill effects which the oil might sometimes produce by turning rancid.

Employment.—We use it in some of our preparations for pulmonary diseases, and for disorders of the kidneys, urinary organs, &c.

NO. 164.—PEACH.

A. PERSICA.—Serratures of the leaves all acute; flowers sessile, solitary.

Description.—This familiar exotic is said to have been brought originally from Persia, and is too well known to need a particular description. The ancient Persians and Parthians were accused by the Romans of poisoning their enemies with an extract of the wild or native peach, from which all the cultivated varieties have sprung.

Properties.—The dried fruit, stewed with sugar, is laxative, and very wholesome for invalids who are troubled with costiveness. The peach-kernels have a bitter and agreeable taste, and constitute a very valuable medicine. Made into a sirup, or cordial, with other appropriate articles, they improve the tone of the stomach and bowels, and invigorate the digestive powers. They are particularly serviceable in convalescence from dysentery. A tea, prepared by steeping the pounded kernels in hot water, and adding sugar to make it palatable, may be used as a substitute for the sirup, or cordial. The leaves and bark are tonic, purgative, and diuretic, and are useful in leucorrhœa, debility, and irritation of the stomach and lungs. A tincture of the blossoms is a powerful cathartic, and said to be almost as active as croton oil.

Employment.—An ounce of the flowers and kernels in equal proportions, boiled in a pint of water, to which add a quarter of a pound of sugar, and then taken in teaspoonful doses, is excellent for children teething and suffering from worms; also for sickness of the stomach and bleeding of the kidneys.

GENUS LYTHRUM.—Calyx bell-tubular, 6, 8, 10, or 12 toothed, inferior; petals five or six, equal, on the calyx; capsules 2 or 4 celled, many-seeded, covered.

NO. 165.—LOOSE-STRIFE.

Common Names.—Purple Willow-herb, Milk Willow-herb, &c.

L. SALICARIA.—Pubescent; leaves opposite, and in threes, sessile, lanceolate, cordate at the base; flowers terminal, whorl-spiked; capsules oblong; stamens twelve.

Description.—Loose-strife is an elegant perennial plant two or three feet high, with an erect, quadrangular, or hexagonal, downy, herbaceous stem, bearing opposite, ternate, sessile, lanceolate leaves, cordate at the base, and downy on the under surface and at the margin. The flowers are axillary, forming a leafy verticillate spike. The calyx is red, with unequal segments, the petals purple and undulate, the fruit a small elliptical capsule.

The plant grows wild in all parts of Europe, and is found in New England and Canada. It prefers meadows, swamps, and the banks of streams, which it adorns in July and August with its showy purple flowers. The whole herbaceous part is medicinal, and is dried for use. In this state it is inodorous, and has an herbaceous and somewhat astringent taste. It renders boiling water very mucilaginous, and its decoction is blackened by the sulphate of iron.

Properties.—Demulcent and astringent. It is a popular remedy in Sweden and other northern portions of Europe, for diarrhœa and chronic dysentery, and is generally administered after the proper cathartics have operated. In Ireland, also, it is a favorite agent in these complaints.

Employment.—The dose of the powdered herb is about a dram two or three times a day. The root in decoction may also be given in doses of from one to two fluid ounces.

GENUS PRUNUS.—Calyx 5-cleft, inferior, bell-form; corol 5-petalled; nut of the drupe smooth, with prominent seams at the sutures.

NO. 166.—PRUNE.

Common Names.—Garden Plum, Official Plum, &c.

P. DOMESTICA.—Flowers almost solitary; leaves lanceolate-ovate, convolute; branches not spinous.

Description.—This is a small tree, bearing white flowers. It is a native of the south of Europe, but is now cultivated in gardens and orchards. The dried fruits, called prunes, are used in medicine, and are imported principally from Bordeaux. They have a feeble odor, and a sweet, mucilaginous taste, generally somewhat acid. Gardeners cultivate several hundred varieties, among which are our green-gage and damson plums. The variety called *Juliana* yields the officinal plum.

Properties and Uses.—The part employed in medicine is the pulp, being laxative and nutritious, and is made into confections. The prunes stewed in water form an excellent diet in costiveness, and during convalescence from febrile and inflammatory affections.

NO. 167.—WILD CHERRY.

Common Names.—Black Cherry, Rum-Cherry, Cabinet Cherry, &c.

P. VIRGINIANA.—Racemes erect, elongated: leaves oval-oblong, acuminate, unequally serrate, glabrous on both sides; petioles generally bearing four glands.

Synonyms.—*P. rubra*, Aiton; *Cerasus virginiana*, Michaux.

Description.—In open fields, the limbs of this tree spread out into an elegant top; but in dense forests it often runs up to sixty feet or more in height, with a few contracted branches. The leaves are deciduous, oval, pointed, and dentate, of a fine shining-green color, furnished at their base with two small, reddish glands; the flowers are white, in erect racemes, from six to eight inches long; calyx inferior, 5-cleft; five petals; style terminal; fruit a black drupe, containing a nut with a prominent suture. It is indigenous to the United States, in many parts of which it is found growing abundantly in our forests.

Properties.—It has a bitter, astringent taste, slightly aromatic, and similar to that of the peach-kernels. Dr. Conwell, in his dissertation on vegetable chemistry, mentions that he has obtained from this bark a new crystalline principle, which he calls CERASIA. The bark is bitter and astringent, and contains prussic acid, tannin, gum, and mucus; it is also tonic, febrifuge, and sedative; it is very useful in fevers, agues, hectic fever, dyspepsia, lumbar abscess, chronic asthma, hysteria, cardialgia, &c. The leaves are said to poison cattle, and the berries to intoxicate birds. The bark, when taken into the system, produces some increase in the action of the heart and arteries, and is apt, in certain persons, to cause a degree of drowsiness. When continued for a length of time in small doses, it increases the tone of the stomach, and invigorates the whole system; but if taken in very large doses, it produces the contrary effects.

Dr. Eberle says that he has several times reduced his pulse from seventy-five to fifty strokes in a minute, by copious draughts of the cold infusion taken several times during the day, and continued for twelve or fourteen days. He adds: "This effect has not, I believe, been noticed before, but from much experience in it I am strongly inclined to believe that we may control the action of the heart and arteries, to a considerable extent, by the use of this substance."

The bark has been particularly recommended in intermittent fevers, phthisis, and hectic fevers—in some instances with decided benefit. Its effects are pretty obvious, and we may easily perceive how it may produce this beneficial medication in the diseases mentioned. The infusion of the bark contains, as we have already stated, prussic acid, together with a bitter and an astringent principle, dissolved in a considerable quantity of water; and to the combination of these remedies we must therefore ascribe the beneficial effects produced by them in consumption and catarrhal affections. It is also good for incontinence of urine.

"This is a very good article," says a writer, "in dyspepsia, given in small doses; but if given in too large doses, it is apt to weaken rather than invigorate those organs." It is useful as a corroborant in fever and ague, and in fevers in a convalescent stage. It enters into the *Wine Bitters* given in intermittent fever, and is also an ingredient of the *Pulmonary Sirup.* It is excellent in many forms of dysentery, and, combined with other articles, makes a good beer for the blood. The bark of the root is far superior to that of the trunk, and possesses also antibilious, emmenagogue, laxative, and stimulating properties.

Employment.—In the form of a cold infusion (it must never be boiled). Pour on boiling water, macerate, and let it cool. The tincture is also used. Of the powder, the dose is from 10 to 40 grains. The berries may be employed indiscriminately with peach-kernels, bruised and steeped in hot water. A gentleman of Boston informs me that every year he fills a barrel with these cherries, covers them with brandy, and sends them to New Orleans, where they are found to operate as a specific for the diarrhœa occasioned by the use of the water there. They are a good astringent in bowel-complaints generally.

Incompatibles.—All preparations of iron, elixir of vitriol, &c.

GENUS PUNICA.—Calyx 5-cleft, superior; petals 5; pome or berry many-celled, many-seeded; receptacle parietal; seed berried.

NO. 168.—POMEGRANATE.

Description.—The leaves, flowers, and fruit, of the pomegranate, were employed in medicine by the ancients. The tree is referred to in Genesis xiii. 23; Numbers viii. 8, &c.: also by Homer, Hippocrates, Dioscorides, Pliny, and many other authors of antiquity. It is a native of the north of Africa, and was introduced into the south of Europe, where it is now naturalized and grows freely.

Properties.—The bark of the root of the pomegranate is an excellent vermifuge in cases of tape-worm, and is much employed in various parts of Europe; but it is chiefly used in India, where it is said scarcely ever to fail, if properly administered. Some practitioners state that it should not be employed unless joints of the worm have already come away naturally. According to Mitouart's analysis, the bark consists of tannin, wax, a sweetish substance (part of which is soluble in alcohol, and part in water, the former crystallizable, the latter having the characters of *Mannite)*, and free gallic acid in large quantity. Righini has recently discovered in it a peculiar acrid oleo-resinous principle, which he has named PUNICINE, and on which it is probable that its vermifuge properties depend.

The fruit-rind is met with in the shops, in arched, irregular pieces, reddish-brown and warty on the outside, yellowish within, about a line in thickness; it is inodorous, with a bitter, astringent taste. The flowers are reddish, and have a weak astringent taste, but no odor; they are not used at present. The rind of the pomegranate consists of 18·8 per cent. of tannin, 17·1 of mucilage, 10·8 of extractive, 30 of lignin, and a trace of resin. It yields its astringency to both water and alcohol. It may be used as an astringent in the same cases as the other vegetable remedies of this class; but at present is rarely employed.

Employment.—Two ounces of the bruised bark, stripped from the fresh root if possible, are macerated for twenty-four hours in two pints of water, then boiled to one half, and filtered; this is given in three doses, with an interval of half an hour between each dose; vomiting frequently occurs after the first or second dose, but this does not prevent from administering a third. Soon afterward the patient passes many stools in which joints of the worm are expelled. The doses are occasionally repeated for four or five days after fragments of the worm have ceased to come away. The decoction of the bark, as an enema, is used in leucorrhœa and bowel-complaints, and as a gargle in sore throat.

The rind in powder is given in doses of from half a dram to a dram. A decoction of the rind is also administered in doses of half to an ounce.

Adulterations.—The root-bark of the common barberry *(Berberis vulgaris)*, and of the box-tree *(Buxus sempervirens)*, are said to be sometimes substituted for that of the pomegranate: the fraud is easily detected, as neither of these substances, although very bitter, possesses the least astringency.

Incompatibles.—All substances incompatible with tannin.

Orders II to V. Di-Pentagynia.—Including four orders.

GENUS AGRIMONIA.—Calyx inferior, 5-cleft or 5-toothed, invested with an outer lobed one; petals 5; stamens 12; seeds 2, in the bottom of the calyx.

NO. 169.—AGRIMONY.

Common Names.—Cockle-bur, Stickwort, &c.

A. EUPATORIA.—Cauline leaves interruptedly pinnate, the terminal leaflet petioled; leaflets obovate, gash-toothed, almost glabrous; flowers sub-sessile; petals rarely twice as long as the calyx; fruit hispid.

Description.—Root perennial; stem hairy, rounded, one or two feet high, seldom branched; leaves alternating, the inferior larger, hairy, pinnate or compound, having from five to nine larger folioles and some smaller ones interposed, which are broad but short, and much divided; all the folioles are sessile and opposite except the last; shape oval or oblong, acute at both ends, margin deeply and unequally serrated; inflorescence in a terminal slender spike.

Properties.—This plant is a mild astringent, tonic, corroborant, diuretic, and vulnerary, and in its qualities resembles the maiden-hair—having, however, less mucilage and more tannin, with some gallic acid. The aroma somewhat resembles that of the melilot. It is useful in coughs and bowel-complaints. Being a very mild astringent, it may be given in diarrhœa, dysentery, relaxed bowels, leucorrhœa, and gonorrhœa. It has been recommended in many other complaints, and is said to have cured the asthma.

Employment.—The best way to take it is in a strong decoction of either the root or plant, or both, sweetened with honey or maiden-hair sirup. The dose is four teacupfuls every day. The roots and whole plant boiled in milk are used by herbalists for diabetes and incontinence of urine. One of their remedies for the tapeworm is agrimony-tea, with alum and honey. The roots are said to be more astringent than the leaves; the Indians use them in intermittent fevers and for jaundice. The decoction is highly recommended as a deobstruent, and also in visceral obstructions. Taken for a long time, it will be found of eminent benefit in scrofula, and in gravel and other obstructions. It is also said to be very beneficial in masked ague.

GENUS GILLENIA.—Calyx campanulate, 5-cleft; 5 narrow unequal petals inserted on the calyx, together with many short stamina; 5 coherent pistils; 5 styles; capsules 5, connate at the base, opening inside, unilocular, 2-seeded.

NO. 170.—INDIAN PHYSIC.

Common Names.—Western Dropwort, Indian Physic, Bowman's-root, &c.

G. TRIFOLIATA.—Leaves ternate, lanceolate, serrate, nearly equal; stipules linear, entire; flowers terminal in loose panicles; calyx bell-tubular; styles 5.

Synonym.—*Spirea trifoliata*, Linn.

Description.—The root of this plant is perennial, consisting of numerous long, slender, brown branches, proceeding from a thick tuber-like head; several stems rise from the same root, two or three feet high; they are slender, smooth, branched, and of a reddish color; leaves large and alternate; the flowers are small and white, appearing in June and July. The roots are scentless, with a bitter but not unpleasant taste; they contain a resin, extractive, lignin, fecula, amarine, and a coloring matter, which dies the solutions red. This plant grows in all the western states, generally in hilly regions, and in sandy or gravelly soils.

Properties and Uses.—There are but two species in this genera which are esteemed equivalents, this and the *Gillenia stipulacea.* The bark of the root is the part used. We have found this, in doses of from 20 to 40 grains, or one or two teaspoonfuls, repeated every twenty minutes until it operates, to be a very certain, efficient, yet mild emetic, in febrile diseases, generally operating also as a purgative; in smaller doses (of from 5 to 10 grains) we have found it an admirable laxative in cases of habitual costiveness; in still smaller doses it is an efficient tonic in dyspepsia arising from debility of the digestive organs. We have treated slight cases of this disease successfully with this alone. It is much less disagreeable than the apocynum or bitter-root, and equal if not superior to it as a tonic and laxative. We sometimes combine them, and add the *Hydrastis*, or golden seal, in equal parts. It may be given in decoction, but we prefer using it in the form of powder. It is as efficient and milder than the *Euphorbia corollata*. The roots are collected in the fall, and kept in many shops. In small doses it is also used in intermittents. The Indians employed it in strong decoctions which operated violently. This practice, if followed, brings on debility. Eberle has successfully used the *Gillenia trifoliata* in dyspepsia; he also employed it, combined with opium, in dysentery. It is given in decoction to horses and cattle as a tonic and digestive.

GENUS PYRUS.—Calyx 5-cleft, superior; corol 5-petalled; pome 5-celled, many-seeded; seed compressed-ovate.

NO. 171.—QUINCE.

P. CYDONIA.—Flowers solitary; fruit tomentose; leaves ovate, entire.

This tree is too well known to need description. It is a native of the south of Europe.

Properties and Uses.—Although Hippocrates employed the fruit as an astringent in diarrhœa, it is not now used in medicine. The seeds, however, are officinal; they are ovate, pointed, plano-convex, of a reddish-brown color, inodorous, leaving a bitter impression on the palate when chewed for some time. The episperm of the seed contains a large quantity of mucilage named by Pereira CYDONIN. The substance of the seed contains, besides other matters, emulsin and fixed oil; consequently emitting, when moistened, the bitter-almond odor. The mucilaginous principle is dissolved out by boiling water. The seeds are only employed in medicine for the mucilage which they contain; the decoction has been recommended as an emollient application to erysipelatous surfaces, and to aphthous ulcerations of the mouth.

Incompatibles.—Alcohol, acids, most metallic solutions, and tincture of galls.

GENUS SORBUS.—Calyx 5-cleft, superior; petals 5; styles 2 to 3; berry pomaceous or farinaceous; seeds 2 or 3, cartilaginous.

NO. 172.—MOUNTAIN-ASH.

Common Names.—Service-Tree, &c.

S. AMERICANA.—Leaves pinnate; leafets acute, somewhat equally serrate, glabrous; general petiole glabrous.

Synonym.—*Sorbus ancuparia*, Michaux.

Description and Uses.—This is a small tree, reaching the height of from ten to twenty feet. The bark is used; it smells and tastes like cherry-bark, and is equal to it, but more astringent. It is a fine tonic and antiseptic, and contains prussic acid. It is principally used in fevers, like cinchona. The fruits are very austere, and never ripen, but become mellow and edible when rotten; they yield malic acid, make a very strong cider, and furnish alcohol.

Employment.—The bark in substance or infusion, administered as we do the Peruvian bark.

GENUS SPIRÆA.—Calyx 5-cleft, superior; corol 5-petalled; petals equal, roundish; stamens numerous, exsert; capsules 3 to 12, 2-valved within, each 1 to 3 seeded.

NO. 173.—NINEBARK.

Common Names.—Snowball, Hardhack, &c.

S. OPULIFOLIA.—Leaves sub-ovate, lobed, doubly toothed or crenate, glabrous; corymbs terminal, crowded; capsules inflated; flowers trigynious.

Description.—This shrub is found in wet situations, on the banks of streams, and grows from three to five feet in height, with white flowers. It is an equivalent of the hardhack, which it resembles.

Properties and Uses.—It is chiefly used by the herbalists in external applications for fomentations and poultices in burns, mortification, swellings, &c. It is also cathartic, febrifuge, sudorific, and anthelmintic. The roots, bark, and twigs, are employed in asthma, colds, fevers, bowel-complaints, &c., chiefly in warm infusions. The extract is also used with good success. This is the true ninebark, but manv shrubs in the United States bear this name.

NO. 174.—MEADOW-SWEET.

Common Names.—Willow-Hardhack, &c.

S. SALCIFOLIA.—Leaves lance-ovate or obovate, serrate, glabrous; flowers in panicled, spreading racemes.

Synonym.—*Spiræa alba*, Muhlenberg.

Description and Uses.—This is an herb not much used, yet it is sometimes resorted to in infusion as an agreeable sub-tonic and sub-astringent. It resembles the hardhack in its properties, but is not so efficient.

NO. 175.—HARDHACK.

Common Names.—Steeple-bush, White-leaf, &c.

S. TOMENTOSA.—Leaves lanceolate, unequally serrate, downy beneath; racemes in a crowded sub-panicled spike.

Description.—This is a small shrub, with many stems, growing two or four feet high, simple, upright, purplish, downy, terete; the leaves are alternate, crowded, on very short petioles, oblong or oval-lanceolate, sub-acute at both ends, with unequal acute serratures, dark green or brownish above, and rugose, white, and tomentose, beneath; the flowers are terminal, in a kind of terminal panicle, of a beautiful red color, formed by compound spikes of small sub-sessile flowers; calyx campanulate, with five acute segments five round petals; five pistils and capsules.

Properties.—The whole plant is inodorous, but the taste is pleasantly bitter and powerfully astringent. It contains gallic acid, bitter extractive, &c., all of which are soluble in water. It was formerly used by the Indians and the herbalists, and was brought into notice in 1810 by Dr. Cogswell, of Hartford. Schoepf and Cutler have omitted it; but Drs. Mead, Ives, and Tully, have since recommended it as a very good astringent and tonic. It appears to be equal if not superior to kino and catechu, because it never disagrees with the stomach; all its virtues are soluble in water. It is a bitter tonic, and can be had pure and genuine.

Hardhack is peculiarly useful in the secondary stages of bowel-complaints, when the inflammation has been partly subdued, employed either alone or combined with ipecacuanha or opium, and is also proper in cholera infantum and in all complaints in which astringents are indicated. It has been used abroad by seamen with great benefit in the cholera morbus and chronic diarrhœa of the tropical climates, even in the first stage. United to milk and sugar, it forms a very pleasant drink for the protracted stage of cholera. It is said to be equivalent to *Geranium maculatum* and *Cornus circinata* in most cases, but the first is less tonic, and the last a better tonic. Water extracts its sensible properties and medicinal virtues.

Employment.—The whole plant is useful, but the root least so. The extract of it is the best form: the dose is from four to ten grains, every two or three hours, in dysentery and chronic diarrhœa, cholera infantum, debility of the bowels and of the system, hemorrhage of the bowels, and in other diseases where astringents are required. A decoction, prepared by boiling an ounce of the plant in a pint of water, may be given in the dose of one or two fluid ounces. The Osage Indians use the dry root and stems as powerful styptics and astringents to stop hemoptysis, by chewing them, or drinking the cold infusion; their women employ it in tea, and as a wash for female complaints, as a restringent, &c.

Order XIII. Polygynia.—Bearing flowers with more than ten styles.

GENUS FRAGARIA.—Calyx inferior, 10-cleft; 5 alternate divisions smaller; corol 5-petalled; receptacle ovate, berry-like; acines naked, immersed in the receptacle, caducous.

NO. 176.—STRAWBERRY.

F. VESCA (Raf.).—Stoloniferous and hairy; radical leaves as long as the stems, stem-leaves few, sub-sessile; folioles sub-sessile, oboval, lateral ones oblique.

Description.—The root of the strawberry is perennial, creeping, knotty, with bunches of fibres at the knots. The stems are of two kinds: some procumbent, stoloniferous, creeping, rooting, slender, with few small leaves, and commonly sterile; true stems upright or reclined, short, with few leaves; both stems and leaves are more or less hairy. The leaves are either radical or caulinal, the former on long petioles, the others nearly similar when at the base of the stem, but much smaller and with short petioles when higher up; stipules lanceolate or oblong, acute; three folioles sessile or nearly so, the middle one sub-petiolate, nearly equal, but the lateral ones commonly oblique, and with fewer teeth inside; shape oboval, oval, or nearly round, margin broadly serrate, surface with regular veins, lower surface pale and more hairy.

Properties.—Strawberries are a palatable fruit, and have many valuable medical properties, being diluent, refrigerant, sub-astringent, analeptic, diaphoretic, diuretic, pectoral, eccoprotic, &c. They are useful in fevers, gravel, gout, scurvy, and phthisis. They are cooling, promote perspiration, and give relief in diseases of the bladder and kidneys, upon which they act powerfully, since they impart a violet-smell and high color to urine. Hoffman and Linnæus long ago extolled them in gout and phthisis. The plant and leaves have nearly the same properties as the fruit, although they are less cooling and more astringent. Both have been employed, like cinquefoil and agrimony, for sore throat, swelled gums, bowel-complaints, jaundice, and fevers, taken in infusion and decoction. A vinegar infusion, distilled water, sirup, conserve, &c., prepared from strawberries, are kept in shops in some parts of Europe.

Employment.—Persons laboring under the above complaints should eat the fruit frequently when in season, and at other times use the sirup. An excessive dose of either, however, is liable to produce emesis or a painful stricture in the bladder, with red urine; but used moderately, they are a valuable medical diet in many cases. They also possess the property of curing chilblains: their water is used in France as a wash for that purpose. A fine wine can be made of the fruit with sugar.

GENUS GEUM.—Calyx 10-cleft, spreading, the alternate segments smaller; petals 5 on the calyx; many stamina inserted on the base of the calyx; many central pistils, each with a long persistent style and obtuse stigma, and becoming a seed; seed forming a cluster, awned by the styles.

NO. 177.—AVENS.

Common Names.—Aven's-root, Evan-root, Chocolate-root, Throat-root, &c.

G. VIRGINIANUM.—Pubescent; stem erect; radical and lower leaves ternate, petiolate, upper ones sessile and simple; folioles ovate, lanceolate, acute, unequally serrate; stipules ovate, serrate, or entire; flowers few, erect; petals oboval, shorter than the calyx; awns uncinate, hairy, twisted.

Description.—The roots are perennial, small, brittle, brown, crooked, tuberculated, oblong, and horizontal; stem simple, erect, about two feet high, pubescent, and few-flowered; radical leaves on long petioles, without stipules; lower leaves with large stipules and shorter petioles; upper leaves sessile, simple, similar to the folioles of the lower leaves, which are oval, oval-lanceolate, or lanceolate, base acute and acuminate, border deeply and unequally serrate; stipules large, broad, sessile, ovate or rounded, serrate or nearly entire. The flowers are terminal, white, and few, on erect peduncles; calyx spreading, 10-cleft; segments lanceolate, acute, five alternate smaller; five yellowish-white petals, opposite to the short segments, shorter than the longest, and inserted on the base of the calyx, oboval, entire, flat; stamina many, short, unequal, perigynous; filaments filiform, anthers roundish and yellow; pistils many, conglomerate, oval; styles long, hairy; stigma hooked. The fruit is a small burr or round cluster of achenes or single seeds, oval, brown, smooth, having a long tail or awn. The properties of the root are taken up by alcohol and water. The *Geum rivale* is a boreal plant spread from New England to Canada in damp places, and is more commonly employed in the north, while this species is chiefly used in the south; they are both equivalents.

Properties.—All the avens have nearly the same properties: they are astringent, styptic, tonic, febrifuge, stomachic, &c. They are much used in the northern states and Canada. In Connecticut they supersede the cinchona in fevers, but they are weaker, although less stimulant. They do not increase excitement, and are therefore useful in hemoptysis and phthisis; they are decidedly excellent in dyspepsia and visceral affections. Ives states that its long use restores to health the most shattered and enfeebled constitutions. They are often used in decoction with sugar and milk, like chocolate or coffee, which they resemble, making a very pleasant beverage: they were extensively used for this purpose in the revolutionary war, and, though astringent, they do not appear to constipate the bowels. They are useful in dysentery, chronic diarrhœa, colics, debility, asthma, sore throat, leucorrhœa, uterine hemorrhage, bleeding from the stomach, and for a weak and languid appetite.

Employment.—The doses are, a pint of the weak decoction, or about 60 grains of the powder, daily, divided into three doses; the powder may be mixed with honey. A tablespoonful of the tincture is also given in some cases. These roots are sometimes put in ale, and used as a stomachic.

GENUS POTENTILLA.—Calyx flat, inferior, 10-cleft, 5 alternate divisions smaller; corol 5-petalled; petals roundish or obovate; seeds awnless, roundish, rugose, fixed to a small, dry receptacle.

NO. 178.—FIVE-FINGER.

Common Names.—Cinquefoil, &c.

P. CANADENSIS.—Procumbent, sub-ramose, whitish, silky; stipules ovate, gashed; leaves wedge-obovate, gash-toothed; stem ascending and creeping, hirsute; peduncles solitary, elongated; divisions of the calyx lance-linear; petals orbicular, sub-entire, of the length of the calyx.

Synonym.—*Potentilla pumila*, Lanarck.

Description.—The stalks of this grass trail along the ground with long slender strings, like strawberries; each stem has five leaves, placed together, of unequal size, obtuse, serrated, and veined; flowers yellow, and the root small. It grows by roadsides, on meadow-banks, and waste grounds.

Properties.—The root is a gentle astringent, tonic, and vulnerary, and has been found to be very beneficial in fevers, particularly when there is great debility, lassitude, and night-sweats, which last it seldom fails to check. It also improves the appetite.

Employment.—It is taken in decoction, or it may be boiled in milk. It is serviceable in allaying fluxes, immoderate flow of the menses, &c.

NO. 179.—TORMENTIL.

Common Names.—Septfoil, &c.

P. Tormentilla.—Stem ascending, dichotomous; leaves ternate, all sessile; leaflets serrate; stipules cut.

Synonyms.—*Tormentilla erecta*, Linn.; *Tormentilla officinalis*, Smith.

Description.—Common tormentil has a large perennial, woody, irregular, knotty, and generally crooked root, dark-brown externally and reddish within. It sends forth several stems, which, as the trivial name imports, are erect, especially in the north of Europe, as in Sweden; in more southern latitudes they are very frequently procumbent, or spreading, whence the synonym *officinalis* is by some preferred. The stems are round, slender, wiry, and branched toward the top, and seldom exceed a foot in length. The leaves are mostly sessile, and composed of three oblong, acute, deeply-serrated leaflets, slightly hairy and paler underneath, but dark-green above, and accompanied by small, deeply-cut stipules. The flowers are small, solitary, of a golden-yellow color, and stand upon long, slender axillary, or terminal stalks; each flower consisting of four obcordate petals, attached by short claws to the rim of the calyx.

Properties.—The root of tormentil possesses a slightly-aromatic odor, and a strong astringent taste. To boiling water it yields its active matter, which appears to be tannin, as the infusion is copiously precipitated by the solution of isinglass. Excepting galls and catechu, it contains more tannin than any other vegetable.

Tormentil-root was formerly used in the plague and other malignant diseases, and was recommended by Vesalius as no less effectual than guaiacum for syphilis. "It is now merely used as an astringent; but because it is indigenous, and to be found on almost every heath, it is seldom prescribed. We believe it, however, to be one of the best medicines of its class; and, as it produces its astringent effects without increasing excitement, it has been recommended to be given in those diarrhœas which attend pulmonary consumption. It makes an excellent application, in the form of gargle, for spongy gums and ulcerations of the mouth or tongue, and has been recommended as an external application to ill-conditioned sores. In the Orkneys, the roots are used in the tanning of leather; and, in the islands of Tiree and Coll, a decoction of them in milk is employed by the inhabitants as a domestic remedy in diarrhœa and dysentery."

Employment.—It is seldom employed in this country, as we have indigenous plants of similar properties, especially the cranesbill. Dose, in substance, from half a dram to a dram.

GENUS ROSA.—Petals 5; calyx unceolate, 5-cleft, fleshy, narrow at the neck; seeds many, hispid, affixed to the inferior sides of the calyx.

NO. 180.—RED ROSE.

R. GALLICA.—Germs ovate, hispid; stems and petioles hispid-acuelate.

Description.—The stems are straight, ramose, and furnished with numerous reddish prickles; the leaves are alternate, petiolate, and composed of from one to seven oval and sessile folioles; the flowers are of a fine crimson-red; calyx urceolate, persistent, globular; the fruit is contained in the tube of the calyx. It is a native of the south of Europe, but is now very common in our gardens. It flowers in June and July.

Properties.—The petals have a faint but pleasant smell, and a bitter and styptic taste. According to Cartier, they contain tannin, gallic acid, a coloring matter, an essential oil, a fatty matter, albumen, some soluble salts with base of potassa, insoluble salts with base of lime, some silica, and oxyde of iron. Water, alcohol, and vinegar, dissolve their active properties.

The red rose is astringent, tonic, &c. It is exhibited with advantage in passive hemorrhage, mucous discharges, colliquative diarrhœa, and other similar affections. We occasionally use this article externally in the form of an eye-water, by adding an infusion of the leaves to the pith of sassafras, which constitutes a mucilaginous liquid, and is very serviceable in ophthalmia. The *Rosa centifolia* and the *Rosa damascena* are similar to this species in their general properties.

Employment.—The infusion is made by adding two pinches of the petals to a pint of boiling water. Sirup of roses is formed by adding one part of the leaves to nine of boiling water and ten of sugar.

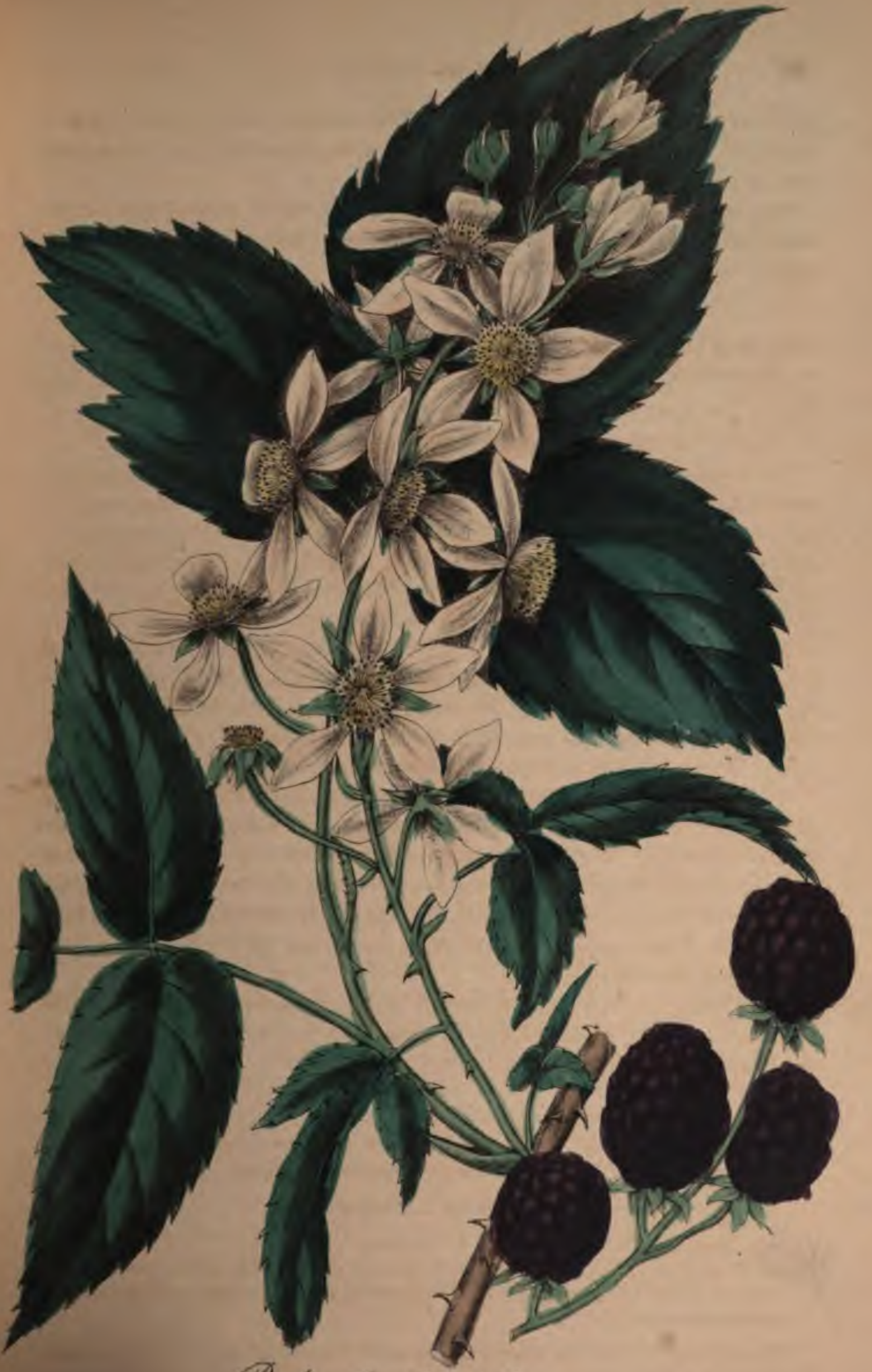
GENUS RUBUS.—Calyx 5-cleft, inferior; corol 5-petalled; pistils numerous; berry composed of many juicy, 1-seeded acines, on a dry receptacle.

NO. 181.—BLACKBERRY.

Common Names.—Thimble-berry, Black Raspberry, &c.

R. OCCIDENTALIS.—Branches and petioles glaucous and prickly; leaves ternate, oval, acuminate, sub-lobate, and doubly serrate, white-downy beneath; petioles terete; prickles recurved.

Description.—The blackberry is too well known to require a particular description. It is indigenous to the United States, and is found growing



Rubus Occidentalis.

abundantly along swamps and fences throughout the country. The root of this plant is contorted, of the size of a quill, black externally, and of a lighter color within.

Properties.—Tonic and highly astringent. The bark of the root, formed into a sirup, is exceedingly valuable in chronic diarrhœa and dysentery, cholera infantum, or summer-complaint, and cholera morbus. It often proves a sovereign remedy when all other preparations fail. It is also excellent in nausea and vomiting. Dr. Chapman, in speaking of the use of the blackberry, says: "Of the vegetable astringents, I have reason to believe that the black and dew berries (*Rubus trivialis*) are among the most efficacious. To check the inordinate evacuations which attended the protracted stages of cholera infantum, no remedy has ever done so much in my practice." In diarrhœa, proceeding from any cause (whether in children or adults), this article may be administered with great advantage, as it will check the discharge, and give tone to the alimentary canal. It is a medicine much used in dysentery by the Indians; and it is said that, in the Oneida tribe, five hundred were attacked with this disease in one season, and, by the use of the blackberry-root, all recovered: while their neighbors, the whites, fell before the disease—no doubt in consequence of taking mercury or some other of the common agents made use of. It is applicable to all cases where vegetable astringents are indicated, and, combined with black cohosh, it makes an excellent injection in leucorrhœa and prolapsus uteri.

Employment.—The bark of the root may be given in powder, infusion, decoction, or sirup. Dose of the powder, from one to two drams; in decoction, add one ounce of the bruised root to a pint of water. I prescribe it in the form of sirup and decoction, and find that it is acceptable to the stomach and inoffensive to the taste. Dose of the decoction, from one to two fluid ounces three or four times a day.

NO. 182.—RED RASPBERRY.

R. STRIGOSUS.—Unarmed, rigidly hispid; leaflets 3, or pinnate, quinnate; base oval, acuminate, white-downy beneath, terminal one frequently sub-cordate.

Synonym.—*Rubus pennsylvanicus*, Lamarck.

Description.—The stem of this plant is defended with spines, and rises three or four feet in height. The leaves are rough, veined, serrated, downy beneath, composed of three or five oval pinnæ. It is a native of Great Britain, and is cultivated in our gardens, and grows abundantly in woods and rocky pastures throughout the northern states. It flowers in May and June, and the fruit ripens in August.

Properties and Uses.—The leaves of this plant are astringent, and useful in diarrhœa and dysentery. When dried and made into a tea, they are good to remove canker from the mouth, throat, stomach, bowels, and other parts of the system. In the first stages of dysentery I have frequently relieved patients by giving them this tea, accompanied with warm injections of the same. When a poultice is needed to remove canker (or proud flesh), raspberry-tea is very suitable in making it. In such a case, or for frozen limbs, or a burn, make a strong tea of the leaves, and thicken it with fine elm-bark, pounded crackers, or white bread, and apply it to the part affected, renewing it as often as may be necessary till the canker is removed. Children with sore mouths should frequently use this tea as a gargle. If troubled with canker or humors in the skin, the sores may be washed with it, and it is a soothing and cleansing wash for irritable ulcers, scalds, and burns. When children have canker in the throat, stomach, or bowels, or are troubled with a relax, a frequent use of this tea will generally remove the complaint. It may be sweetened, and a little milk added, to make it more palatable.

Raspberry-tea is not a bad substitute for the imported article, and its operation upon the stomach is bracing, having the effect to banish faint and languid feelings; and Dr. Thomson strongly recommends its use previous to and during parturition.

Employment.—Indicated above.

Class XII. Polyandria.—Bearing flowers with over ten stamens, not on the calyx. Generally over twenty, and variable.

Order I. Monogynia.—Bearing flowers with but one style or sessile stigma.

GENUS ACTÆA.—Calyx inferior, 4-leaved, caducous; corol 4-petalled; stigma sessile, capitate; berry 1-celled; seeds many, half-orbicular.

NO. 183.—WHITE COHOSH.

Common Names.—Necklace-weed, White Beads, &c.

A. ALBA.—Petals equalling the stamens, truncate; pedicels of the oblong raceme as large as the general peduncles when mature; leaves decompound.

Description.—The white cohosh in its appearance so closely resembles the black (*Macrotys racemosa*) as scarcely to be distinguished except in the fructification. It grows about two feet high, divided into long branches toward the top, producing pointed leaves, cut in the edges with sharp notches. It produces beautiful white berries, from which its name is derived.

Properties.—The medical properties are regarded as nearly identical with those of the black cohosh, for which it is often substituted, especially as an emmenagogue, and in rheumatism. It is stimulating and opening, and useful in colics, &c. The *Actæa rubra*, distinguished by its red berries, possesses the same qualities.

Employment.—The root is used in the same manner as the *Macrotys*. Dr. Jones, in his lectures on materia medica, remarks that the seeds, in repeated doses of 10 or 15 grains, are a specific for nausea, vomiting, and great irritability of the stomach.

GENUS CHELIDONIUM.—Calyx 2-leaved; petals 4; silique superior, 2-valved, 1-celled, linear; seeds numerous, crested.

NO. 184.—GARDEN CELANDINE.

C. MAJUS.—Leaves alternate, pinnate, lobed; umbels axillary, peduncled; seeds black, with a white crest.

Description.—This plant rises two or three feet in height, and has many tender, round, green, watery stalks, with large joints, very brittle and transparent; the leaves are large, serrated, and very tender; the flowers, consisting of four petals, are yellow. After these come long pods, which, when pressed by the fingers, instantly fly into pieces. It is found growing in meadows, by the sides of streams, and in low, marshy places, throughout the United States, but is supposed to have been introduced from Europe, where it is indigenous.

Properties.—Celandine has a faint, unpleasant odor, and a bitter, acrid, durable taste, which is stronger in the roots than in the leaves. The odor is nearly lost by drying, but the taste remains. The yellow juice is bitter and exceedingly acrid, and when applied to the skin produces inflammation and even vesication. The plant, analyzed by MM. Chevalier and Lassaigne, afforded a bitter resinous substance of a deep-yellow color, and bitter, nauseous taste; mucilage, albumen, and various saline substances, besides free malic acid and silica. Dr. Probst, of Heidelberg, has more recently found in it a peculiar acid denominated *Chelcedonic acid;* two alkaline principles, one of which forms neutral salts with the acids, and is called CHELERYTHRIN in consequence of the intense redness of its salts—the other unites with but does not neutralize the acids, and is named CHELIDONIN; and lastly a neuter, crystallizable, bitter principle, which from its yellow color he calls CHILIDOXANTHIN. Of these principles, chelerythrin appears to rank among the acrid narcotic poisons.

The general properties of this plant are acrid, stimulant, anti-herpetic, detergent, diuretic, and discutient. The juice, rubbed on warts, will remove them; it is also useful in the cure of ring-worms, and for cleansing old ulcers. A decoction of the plant, made by boiling it in white-wine vinegar, and then combining aromatics, is recommended as an excellent drink in jaundice, for which purpose it was much employed by the ancients), and for the removal of visceral obstructions, especially those of the liver. It has been given also, with asserted advantage, in various other complaints, especially those of a scrofulous character, affecting the mesenteric and lymphatic glands, the skin, and the eyes. We, however, make use of it only for the piles and salt-rheum, in the forms of tincture and ointment.

Employment.—An ointment of the roots is made by boiling them in hog's lard, which is useful in the piles. The tincture may be prepared by digesting one ounce of the plant in a pint of spirits.

GENUS CISTUS.—Calyx 5-leaved, superior, two of them smaller; corol 5-petalled; capsule 1-celled, 3-valved, opening at the top; partitions contrary; seeds angular.

NO. 185.—FROSTWORT.

Common Names.—Rock-Rose, &c.

C. CANADENSIS.—Without stipules, erect; leaves alternate, erect, linear-lanceolate, flat, tomentose beneath; racemes terminal, few-flowered; divisions of the calyx broad-ovate-acuminate; capsules shorter than the calyx.

Synonym.—*Helianthemum*, Jussieu.

Description.—This plant rises two feet in height; the leaves are numerous, very small, and of a whitish color, like frost, and grow on small purple stalks; the flowers are of a pale color, inconspicuous, and terminate in a small pod containing very minute seed. It is a newly-discovered plant, growing in the woods on Long Island, and plentifully in New Jersey, and is known by the name of frostwort, from its color.

Properties and Uses.—This plant is astringent and tonic, and is effectual in the cure of scrofula, for which let the patient drink an infusion three times a day: put four ounces of the dry leaves into a quart of boiling water. The sores should also be washed with it. For an external application to the tumors, take one handful of the dry leaves, a quart of rum, and a tablespoonful of black pepper; set them on hot embers for two hours to simmer; strain, and add a handful or two more of the leaves, and simmer it again for half an hour; then thicken it by stirring in two ounces of the powdered leaves, and apply it as a poultice over the scrofulous tumors twice a day.

GENUS CITRUS.—Calyx 5-cleft; petals 5, oblong; filaments dilated at the base, in several parcels; berry 9 to 18 celled. Polyadelphous.

NO. 186.—ORANGE.

C. AURANTIUM.—Leaves articulate, elliptical, acuminate; leaf-stalks winged; stem arborescent; fruit globose, with a rough skin and juicy pulp.

Description.—This well-known evergreen tree was originally a native of the warmer parts of Asia, though it has been long naturalized in the south of Europe, the West Indies, and the tropical portions of the American continent. In some of the warmest spots in England, particularly in the south of Devonshire, the orange-tree may be seen growing in gardens, having withstood the winters in the open air for upward of one hundred years. It is cultivated on a large scale in the south of France, Spain, Italy, Sicily, the Grecian archipelago, &c.

The leaves of the orange are nearly elliptical, smooth, entire, of a shining-green color, and the foot-stalk is winged, having the appearance of a small leaf. The flowers appear during the whole summer season, some branches being in full bloom, while on others they are disappearing, and on the others appear the young or the full-grown fruit. The calyx is salver-shaped, and cut into five small teeth; the petals are five, oblong, white, fleshy, and beset with small glands.

Properties.—The orange-peel is the part made use of in medicine. This substance is in flat fragments, of a deep-yellow color, wrinkled, resembling shagreen on one side, owing to the presence of a number of small glands, which in the fresh state contain a large quantity of essential oil, of a bitter, aromatic taste, and a very agreeable odor. Water and alcohol dissolve its active principles. Orange-peel acts as a stimulant and tonic, on account of its essential oil and bitterness. It is most commonly used as a carminative and stomachic, united with other stimulants and tonics.

Employment.—Of the powdered peel, the dose is from one scruple to a dram. The infusion is made by adding from two drams to half an ounce of the peel to a quart of boiling water.

NO. 187.—LEMON.

C. MEDICA.—Leaves ovate, acuminate, with linear wingless petioles. Var. *Citrus limon* is the LIME, distinguished by a smaller fruit, almost round.

Synonym.—*Citrus limonum.*

Description.—The trunk of the lemon-tree is straight and slender; the leaves are oval, acuminate, dentate, of a yellowish-green color, and supported by a winged peduncle; the flowers are numerous, of a violet-red color externally, but otherwise similar to those of the orange-tree; the fruit is ovoid, and terminated by a conical apex. The lemon-tree is a native of Asia, whence it was brought into Greece and Italy, but is now successfully cultivated in the West Indies and the south of Europe. It also thrives in Mexico and the southern portions of the United States, particularly in Florida.

Properties.—The lemon contains a considerable quantity of juice, of an acid and agreeable taste, and of a very pleasant odor. According to M. Proust, lemon-juice contains citric acid, 1·77; bitter principle, gum, and malic acid, 0·72; and water, 97·51. In small doses, it stimulates the stomach, and facilitates digestion. Diluted with water, it is employed with great success as a refrigerant in inflammatory diseases. Dr. Broussais has remarked that it was, of all the acidulous substances, that which best suited the stomach when this organ was laboring under an acute phlogosis. It is also useful in allaying certain irritations of the stomach in which there is a constant vomiting. Its administration is recommended in jaundice, scurvy, and generally in all kinds of febrile diseases in which the thirst is great and the animal heat very much increased.

Employment.—It is given in the form of lemonade, which is made by combining the juice of one lemon with a pint of water, and adding a sufficient quantity of loaf-sugar. The citric acid, obtained by evaporating the juice of the lemon, is employed as the best preparation to combine with saleratus in making our *Effervescing Mixture* or *Draught.* It is, however, seldom obtained pure.

GENUS EUGENIA.—Calyx 4-parted, superior, persistent; petals 4; germen oblong, cylindrical, 2-celled, with many ovules in each cell; style awl-shaped, in the centre of a quadrangular elevation; berry oval-oblong, 12-seeded.

NO. 188.—CLOVES.

E. CARYOPHYLLATA.—Leaves lanceolate-acuminate, entire; panicles axillary and terminal, trichotomous.

Description.—The clove-tree is a native of the Moluccas, and grows freely in various parts of the East and West Indies. It presents a beautiful appearance, somewhat resembling a large pear-tree. The trunk grows from fifteen to thirty feet in height, a foot thick, divided into branches four or five feet from the ground, which are slender, opposite, usually horizontal, and form a dense, pyramidal head.

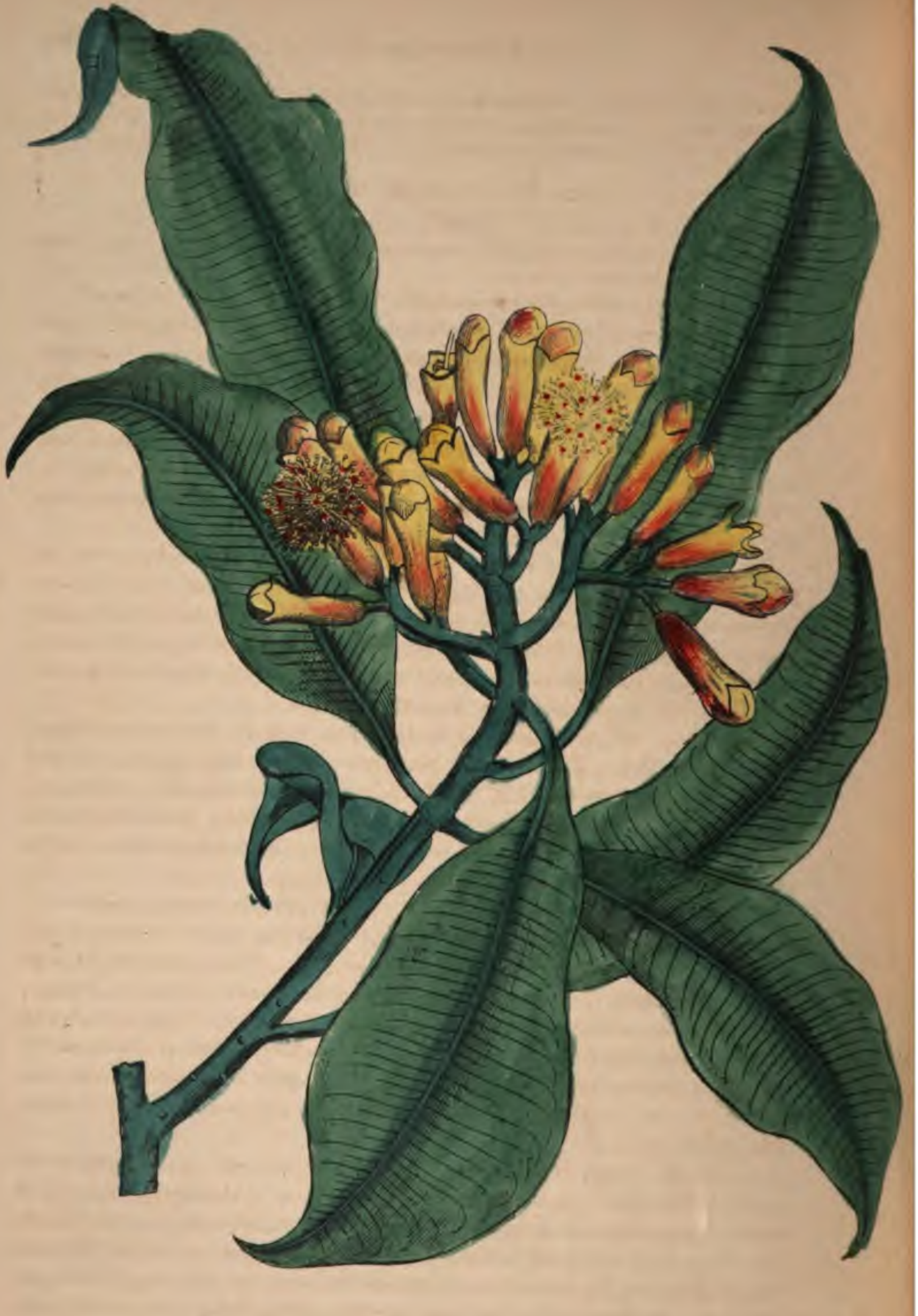
The Dutch, through their East India company, have for a long period nearly monopolized the trade in cloves, as well as in spices generally; and in order to dictate their price, immense stores are hoarded in Java, which they are said to destroy whenever the new crops prove too abundant.

Properties.—Cloves are the undeveloped flowers, consisting of the tubular calyx with the unexpanded corolla, forming a small round ball between its four teeth. Their odor is peculiar, agreeably aromatic, and their taste pungent and somewhat acrid. They consist of 18 per cent. of volatile oil, 6 of an almost tasteless resin (CARYOPHILLIN), 13 of tannin, 4 of extractive, 13 of gum, 28 of lignin, and 18 of moisture. The volatile oil is an article of the materia medica in the pharmacopœias. As obtained by distillation, it consists of two volatile oils, one heavier, the other lighter than water, a mixture of the two forming the oil of cloves of commerce. It is at first pale yellow, but gradually acquires a reddish tint; it has the odor and taste of cloves in a marked degree; it is very soluble in alcohol, ether, strong acetic acid, and the fixed oils; and but very sparingly soluble in water, in which it sinks, its density being about 1·060. Cloves yield their properties to water and to alcohol.

Employment.—Cloves and their oil are aromatic stimulants, and are employed in medicine as flavoring or corrective adjuncts to other substances; they are extensively used by the cook and confectioner. The oil dropped into the hollow of a carious tooth will often relieve toothache. Cloves in substance are given in doses of from ten grains to half a dram.

Incompatibles.—*With the infusion.* The mineral acids, lime-water, sesqui-salts of iron, sulphate of copper, nitrate of silver, acetate of lead, tartar-emetic, and gelatine.

Adulterations.—Cloves from which the oil has been procured by distillation are sometimes mixed with good cloves; they may be distinguished by their lightness, and by their not becoming greasy when bruised with the nail. The oil is sometimes adulterated with oil of turpentine, which may be detected by the odor when it is dropped on a heated spatula.



Eugenia Caryophyllata.

GENUS MACROTYS.—Calyx about 4-leaved, becoming caducous; corol many minute petals, very caducous, or wanting; stigma simple, sessile, curving toward the gibbous side of the germ; capsule 2-valved, dehiscent at its straight suture.

NO. 189.—BLACK COHOSH.

Common Names.—Squaw-root, Black Snake-root, Richweed, Rattle-weed, &c.

M. RACEMOSA.—Leaves decompound, leaflets oblong-ovate, gash-toothed; racemes very long; capsules ovate; fruit dry.

Synonyms.—*Actea*, Linn.; *Cimicifuga*, Rush.

Description.—The root of this plant is perennial, blackish, thick, with long fibres; stem simple, straight, rising from three to six feet in height, smooth, angular, furrowed, and often crooked; the leaves are few, alternate, and tri-pinnate. The flowers are in a long terminal raceme, from one to three feet long, and often with one or two short ones at its base; this raceme is cylindrical, white, and always bent or crooked at first: the flowers are scattered, and often germinate or fasciculate on short peduncles; capsule blackish and dry; seed many and flat.

The American species has an extensive range, and was used by all the Indian tribes. It is found growing all over the United States, from Maine to Texas, and also in Canada. It is generally procured in open woods, rich soils, and on the sides of hills; not so common in rocky mountains and sunny glades, and very scarce in moist and swampy soils. It blossoms in June and July, and its seeds ripen in August.

Properties.—The whole plant, including the flowers, is possessed of medicinal properties. The root and plant have a rather unpleasant smell, and a disagreeable, nauseous taste. Schoepf considers it as nearly poisonous, and to be used with caution, yet as powerful and tonic. According to the analysis of Dr. G. W. Mears, it contains tannin, extractive matter, a bitter principle, gallic acid, resin, gum, and starch.

The black cohosh is astringent, diuretic, alterative, emmenagogue, &c. It is an article much used by the Indians in rheumatism and to accelerate parturition, whence it bears the name of *Squaw-root*. When exhibited in large doses, it produces great prostration, and excites nausea, vomiting, vertigo, anxiety, pains in the extremities, &c. Being astringent, it is pronounced an excellent remedy in bowel-complaints, and especially those of children. It acts upon the secretions, and is an alterative of great value; as an emmenagogue also, and in nearly all uterine difficulties, it appears to have almost a specific effect.

Dr. Hildreth says of this article: "In acute phthisis, uncomplicated with much inflammation in the vesicular structure, or pulmonary, mucous, or serous membranes, we have often seen the most prompt action of the decoction alone in throwing off febrile excitement or the hectic paroxysm, allaying cough, reducing the rapidity and force of the pulse, and inducing gentle perspiration. In those intercurrent congestions and inflammations so frequent in the second and third stages of phthisis from atmospheric exposure, we have often seen the same happy influence exerted. When tubercles, however, are softened down and excavated, we have been disappointed in effecting permanent cures by this and all other known remedies."

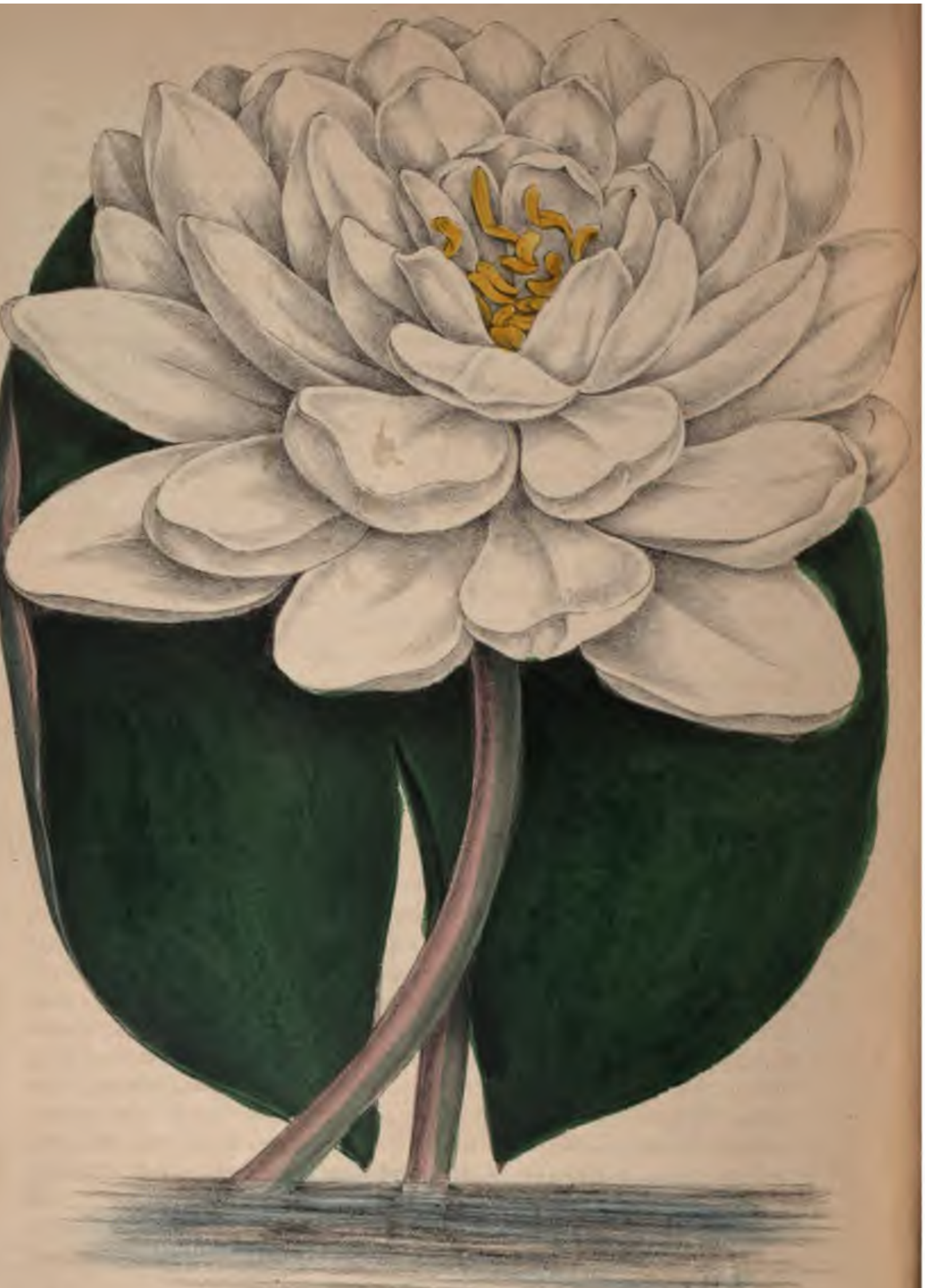
Dr. Morrow very highly recommends cohosh in several diseases, particularly the suppression of the menses, given in the form of tincture and the resin. I use it in some cases, but can not yet speak sufficiently definite to recommend it strongly. While in London, I prescribed for a young lady in dis-menorrhœa, in which there was an enormous swelling of the abdomen, and the general health greatly impaired. I gave the tincture two or three times a day, which caused nausea; also the *Bilious Physic*, with the *Restorative Wine Bitters*, combined with the carbonate of iron. This treatment soon removed the symptoms, and restored the patient to health. How far the cohosh contributed to the cure I can not say.

We have used it in a great many cases of hooping-cough, in all stages of the disease, and rarely has it failed to produce decidedly beneficial effects—rendering the cough less violent, the expectoration more free, and in many instances apparently bringing the disorder to an abrupt yet favorable termination.

In rheumatism the black cohosh is a useful article, in both the acute and chronic forms. The first attack of the disease is often cured by administering a sufficient quantity of the saturated tincture of the root (from three to sixty drops) every two hours night and day, until the head becomes quite affected; then lengthen the intervals between the doses to three, four, or six hours, sufficient to keep up the action on the brain, and which must be continued for not less than seven days, or until the disease is completely removed. Previously to the exhibition of this tincture, the bowels must be cleansed by a purgative, which may be occasionally repeated. This appears to change the rheumatic diathesis, so that a second attack will seldom occur.

A strong decoction of the black cohosh, combined with slippery-elm bark, forms a good poultice for every kind of inflammation. The decoction is also employed for the purpose of arresting various hemorrhages. A sirup made of the root is a valuable remedy for coughs. It likewise forms an excellent gargle for the quincy.

Employment.—It may be used in the form of powder, saturated tincture, resin, or hydro-alcoholic extract. As an astringent, give a strong tea or infusion; for a gargle, use any quantity. When employed for hooping-cough, the saturated tincture is the most convenient form of administering it. For a child of one year old, the dose is from fifteen to twenty drops, given four or five times a day; for one three or four years old, from one half to a teaspoonful, in a little sweetened water. We prepare the tincture by adding a pint of spirits (diluted alcohol) to two ounces of the pulverized root. It may likewise be used in decoction. The root is also a very valuable addition to alterative sirups, combined with articles of a deobstruent nature.



Nymphæa Odorata.

GENUS NUPHAR.—Calyx 5 or 6 leaved; petals many, minute, inserted on the receptacle with the stamens, nectariferous on their backs; stigma with a broad disk and radiate furrows, sessile; pericarp berry-like, many-celled, many-seeded.

NO. 190.—YELLOW POND-LILY.

Common Names.—Yellow Water-Lily, &c.

N. ADVENA.—Leaves cordate; lobes divaricate; calyx 5 or 6 leaved; stigma crenate; capsules furrowed.

Synonym.—*Nuphar lutea*, Wildenow.

Description.—This is a well-known plant, growing in ponds and stagnant waters; it is of a similar habit to the white pond-lily—the leaves always floating in deep water, and erect in shallow. The petioles are semi-cylindrical; color of the flower and root deep yellow.

Properties and Uses.—The root is astringent, tonic, pectoral, and emollient, and considered nearly equivalent to the *Nymphæa odorata*, but not quite so efficient. It is prescribed in the same manner as to doses and application.

GENUS NYMPHÆA.—Calyx 4 to 7 leaved; corol many-petalled, petals about equalling the length of the calyx-leaves, attached to the germ beneath the stamens; stigma a broad disk, marked with radiated lines; pericarp berry-like, many-celled, many-seeded.

NO. 191.—WHITE POND-LILY.

Common Names.—Sweet Water-Lily, Toad-Lily, Water-Cabbage, &c.

N. ODORATA.—Leaves round-cordate, entire, sub-emarginate; lobes spreading asunder, acuminate, obtuse; petals equalling the 4-leaved calyx.

Description.—The roots of this plant are perennial, creeping, rough and blackish, thick and knotty; the petioles from one to six feet long, spongy or filled with oblong tubes; leaves floating on the surface of the water, nearly round and entire, with a cleft at the base, sub-peltate, lobes ending in short acuminate points: upper surface glossy, without veins; lower reddish, with radiating nerves; petioles terete, smooth, bearing one large, white, floating flower; calyx with four equal, oblong, obtuse folioles, green outside, white within; petals numerous, in many rows, unequal, the inner ones shorter, oblong, obtuse, flat, or concave; stamina numerous, in several rows, with oblong, petaloid filaments, and yellow, adnate, twisted anthers, bilocular, opening inside; pistil formed by a torus or radiated receptacle, with from twelve to twenty-four rays, which appear to be as many stigmas; the fruit is singular, berry-like, enclosing as many polyspermous utricles as rays and stigmas.

This species of the lily is one of the handsomest of our aquatic plants, the flowers being from three to four inches in diameter, and of a delicious fragrance. It grows all over the United States, from New England to Louisiana, in ponds, ditches, rivers, &c. It blossoms in summer; the flowers

t at night; the seeds ripen under water. It is very ornamental, in both
ative and cultivated state. The perfume is similar to that of the mag-
a, and very fugacious; it is destroyed by heat.

roperties.—The properties of this plant are similar to those of the *Nym-*
a alba of Europe, but much more efficient and decided. The roots
chiefly used, and are kept in shops in New England. They are astrin-
t, antiseptic, refrigerant, demulcent, anodyne, emollient, &c. Their taste
typtic and bitter when fresh; combined with iron, they dye of a dark-
wn and black color, and contain a large quantity of tannin, gallic acid,
ther with starch, mucilage, sugar, resin, ammonia, ulmine, tartaric acid,

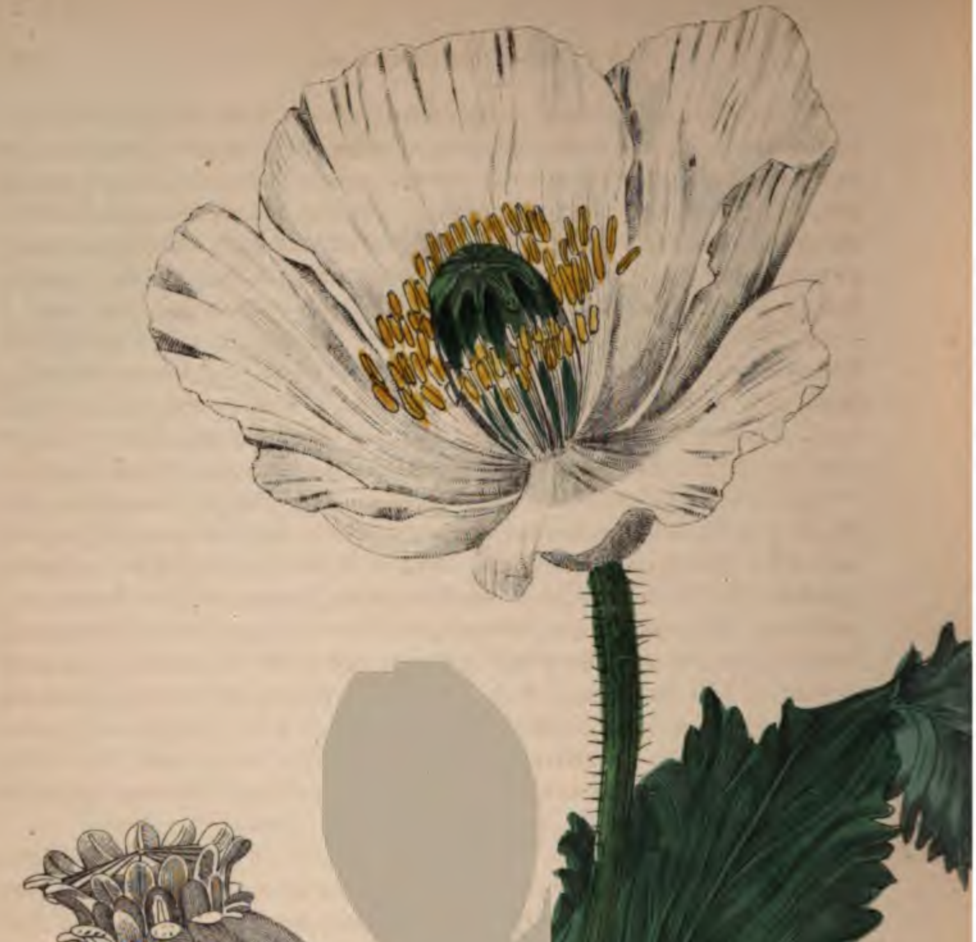
The variety with yellow roots is the mildest and best. It is said to be
erable to *Statice* and *Geranium maculatum* in almost all cases, being
ler and quite as efficient. Externally, the roots and leaves are used for
ltices in boils, tumors, scrofulous sores, lockjaw, and inflamed skin. In-
ally, the roots are useful in diarrhœa, dysentery, and all complaints of
bowels, gonorrhœa, leucorrhœa, scrofula, and many kinds of fever. It
be taken in decoction alone or with tonics. This also makes a good
h for old sores, ulcers, and fresh wounds; also as a gargle in putrid sore
at and aphtha, and a valuable wash for inflamed eyes. The fresh roots
sometimes as a rubefacient externally; the dry ones are the best for use.
fresh leaves are excellent for cooling and emollient cataplasms; they
eaten by cows and other cattle, and in Canada they are boiled for greens
e spring. The fresh root is sometimes used like soap. A conserve of
flowers is refrigerant, and the sirup of the roots is very good. The fresh
e of the roots, mixed with lemon-juice, is said to be a good cosmetic,
to remove pimples and freckles of the skin. It may also be united to
ery-elm bark and other discutients, for white swellings.

mployment.—For gleets and whites, take the expressed juice of the root,
to every pint add half a pint of port wine and four ounces of sugar: of
the patient may take a large teacupful four times a day. The root,
ted in ashes, and applied to wounds from bruises, nails, &c., is very
d to draw out substances and allay inflammation. When employed as a
ltice, in combination with cohosh-root and slippery-elm bark, to discuss
e swellings, it should be changed three times a day, giving the patient at
ame time internal cleansing remedies. The dose of the powdered root
teaspoonful, taken in warm water.

US PAPAVER.—Calyx 2-leaved, caducous; corol 4-petalled; stigma a broad
disk, with radiating lines; capsule 1-celled, dehiscent by pores under the permanent
stigma.

NO. 192.—POPPY.

mon Names.—Opium-Poppy, White, Red, or Black Poppy, &c.
OMNIFERUM.—Calyx and capsule glabrous; leaves clasping, gashed, glaucous.



Papaver Somniferum

Description.—The stem is cylindrical, smooth, from three to four feet high; leaves sessile, elongate, semi-amplexicaule, glaucous, irregularly cut on the borders; flowers solitary, terminal, red or white, very large; corolla with four petals and about one hundred stamina; stigma orbicular, stellate; the fruit is a round capsule, crowned by the persistent stigma, and containing numerous white or gray seeds, very small and reniform. The poppy is indigenous to Asia, and is now cultivated in both Europe and America.

Qualities of Opium.—Opium, such as is brought from the Levant, is in flattened, circular masses, reddish externally, of a blackish-brown internally, hard, with a shining and compact fracture, of a bitter, acrid, and nauseous taste, of a peculiar virose smell, and of a specific gravity of 1·336. Worked with the fingers, this substance becomes soft, tenacious, and resembles pitch.

Opium is partly soluble in water, alcohol, ether, vinegar, lemon-juice, &c. Rubbed in warm water, five twelfths are dissolved, six twelfths are suspended, and one twelfth remains insoluble. Heated in the air, it inflames and burns rapidly. It is composed of an alkaline principle, discovered by Sertuerner, and called MORPHIA, which, according to Robinet's experiments, is combined with a peculiar acid which he designates by the name of CODEIC; of another peculiar acid called MECONIC acid, which, in opium, seems to be combined with soda; of a crystallizable principle, discovered by Derosne, and named NARCOTIN; finally of extractive matter, mucilage, fecula, resin, fixed oil, a glutinous matter similar to caoutchouc, a vegeto-animal substance, vegetable fibres, and sand.

Qualities of Morphia.—This substance is white, in prismatic rectangular needles, inodorous, almost tasteless on account of its insolubility, but very bitter when it is dissolved. It is unalterable in the air. According to Pelletier and Dumas, it is composed of carbon, 72·02; nitrogen, 5.53; hydrogen, 7·01; and oxygen, 14·84. It is almost insoluble in water; it dissolves slightly in this menstruum when boiling, and completely in alcohol, and ether especially. Gently heated, morphia melts, and forms on cooling in a radiated mass; at a high temperature, it is decomposed. It possesses alkaline properties, turns green the sirup of violets, combines with diluted acids, and forms neutral salts. Mixed with nitric acid, it acquires a lively red color, and the salts of iron in the maximum of oxydation strike a fine blue color with it.

Properties.—The action of opium appears to be, directly or indirectly, upon the nervous system. When administered in small doses, it diminishes sensibility, and causes a tranquillity in the system, which is followed by sleep. It is very useful in diarrhœa and vomiting, to calm the irritation of the stomach and intestines. Taken when going to bed, it produces an equable glow throughout the system, procures sleep, calms pulmonary irritation, and most generally causes a moisture of the surface. In typhus fever, which is attended with local inflammation, opium, united with camphor and ipecacuanha, is commonly attended with success. In some acute inflammatory affections, after the symptoms of inflammation have subsided, and there still appears to be general irritation, produced by the disturbance of the nervous system, opium may be administered with benefit, to calm the existing nervous irritability.

This plant, however, is exceedingly abused. It is given by physicians too frequently and without discrimination. It is often prescribed, in some form or other, for almost every disease, by which the exciting cause of the complaint is locked in the system, instead of being expelled. Opium should seldom be used merely as an anodyne; but when combined with other ingredients, with a view to act upon the secretions, it may be given in very many diseases with signal benefit.

Employment.—Opium may be given in doses of from one to three grains. It enters into our *Sudorific Drops*, *Diaphoretic Powders*, &c. Of laudanum, the quantity is from 30 to 100 drops; a medium dose for an adult is 40 or 50 drops. A sirup, made of the capsules of the poppy, is excellent for children, as water takes up less of the narcotic principle than spirits: about a teaspoonful of it is a dose for a child two years old. A sirup is also made from the petals; likewise a poultice, which is very soothing for painful affections, particularly inflamed eyes.

.GENUS PODOPHYLLUM.—Calyx 3-leaved, minute; corol about 9-petalled; stigma large, crenate, sessile; berry 1-celled, crowned with the stigma, large, many-seeded; columella 1-sided.

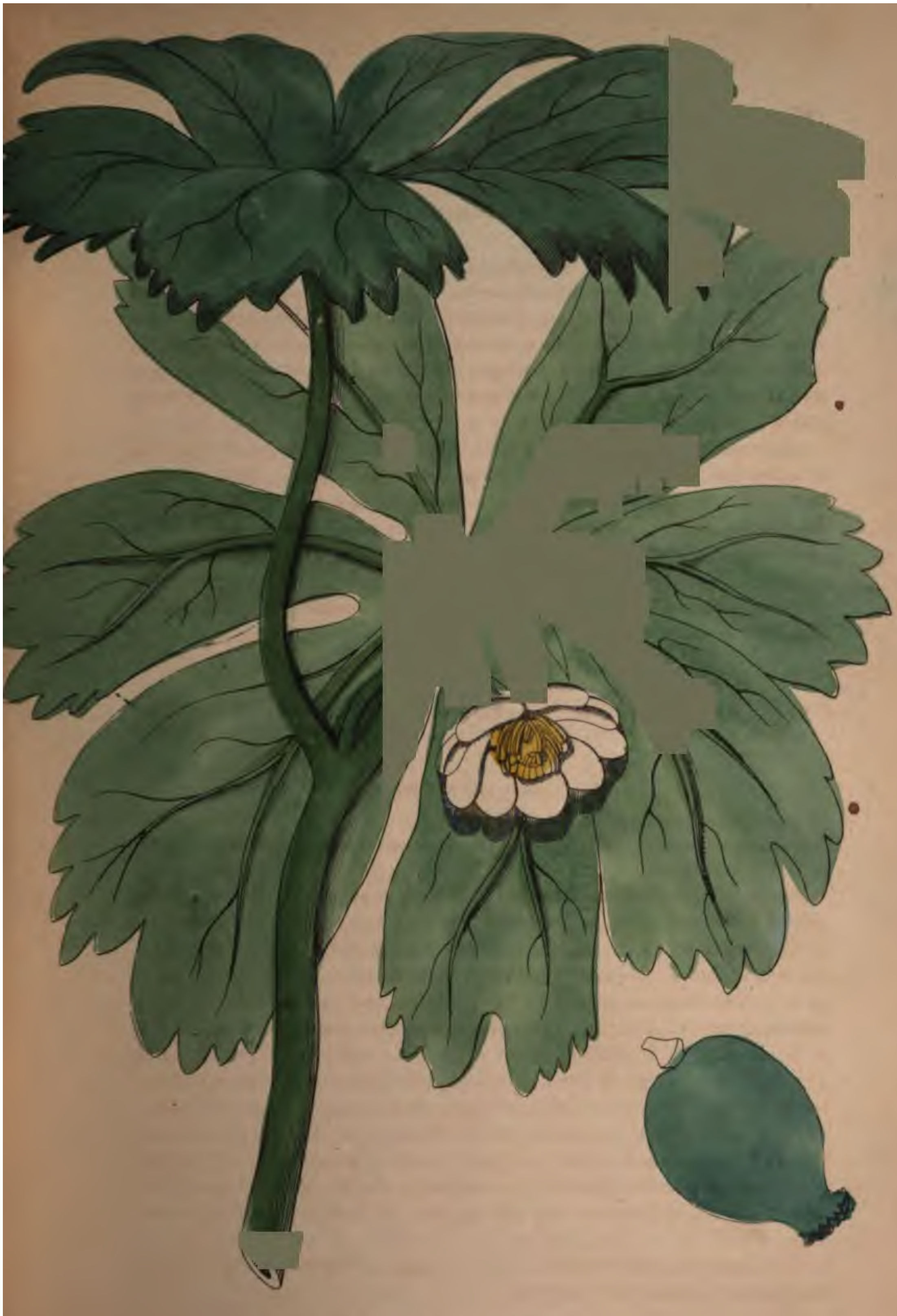
NO. 193.—MANDRAKE.

Common Names.—May-Apple, Indian-Apple, &c.

P. PELTATUM.—Leaves palmate, peltate; sinus obtuse; segments cuniform, bilobe, and toothed at the end.

Description.—The mandrake has a jointed, running root, about half the size of the finger; the stem is about a foot high, and is enveloped at its base by the sheaths which covered it when in bud; it is smooth, round, and erect, dividing at the top into two round petioles, from three to six inches long; each petiole supports a large peltate, palmate leaf, smooth above, slightly pubescent beneath, divided into seven lobes, which are wedge-shaped, toothed at the extremity. In the fork of the stem is a solitary flower, on a round, nodding peduncle, one or two inches long; calyx three oval, obtuse, concave leaves; petals from six to nine, obovate, obtuse, concave, smooth, white; stamens shorter than the petals, curving upward; anthers oblong, twice as long as their filaments; germ oval, compressed, obscurely angular; stigma nearly sessile, convex; fruit large, ovate, and yellowish, which is one-celled, many-seeded, and crowned with the stigma. It flowers from March util May.

This plant is found throughout the country from New England to Georgia, but is most common in the interior.



Podophyllum Peltatum.

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Properties.—The dried root of the mandrake is fragile and easily reduced to powder. It has a peculiar and rather unpleasant taste, but not much acrimony; when chewed for some time, however, it is strong and bitter. It contains (according to Bigelow) a resin, a bitter extractive matter, fecula, and a slight proportion of gummy substance. The chemical properties of *Podophyllum* will be found under the head of PHARMACY.

The mandrake is purgative, deobstruent, anti-bilious, anthelmintic, hydragogue, and anti-dyspeptic. The properties of this plant are those of a sure and active cathartic, equal if not superior in some diseases to those of jalap. "We have hardly any native plant," says Professor Bigelow, "which answers better the common purposes of jalap, aloes, and rhubarb, and which is more mild and safe in its operation." We have found this root very valuable in many inveterate chronic diseases, such as venereal, scrofulous, bilious, and dyspeptic complaints; also in dropsy. The mandrake often produces nausea and vomiting, and is, upon the whole, more unpleasant than some other purgatives; but, as far as my experience goes, it has a peculiarly beneficial effect upon all the secretions and excretions, stimulating them to a healthy action, and often answers the purpose of both an emetic and cathartic. It is excellent in chronic affections of the liver, and in all bilious complaints, indigestion, &c. I have given this preparation with invariable success in a variety of complaints. It is a powerful medicine, and requires caution in its administration; yet it will fulfil all the indications for which calomel is given, and produces none of the ill effects of that mineral.

"The root of this plant," observes Miles, "is peculiarly calculated for a cathartic, extending its influence through every part of the system; touching every gland, when given in small doses, and repeated every two or three hours. It is particularly serviceable in all dropsical cases and intermittents, or any other disease where a general action is wanting. It is often successfully employed as a vermifuge, in teaspoonful doses, and repeated. I will also remark, in regard to this medicine, that small doses excite a general action, and stimulate the glands to a discharge of their respective functions, while large doses evacuate and exhaust the system."

Dr. J. F. D. Lobstein considers the mandrake of the greatest service in incontinence of urine, in which disease he has never known it to fail in procuring immediate relief.

Employment.—Internally, the pulverized root may be given in the dose of a small teaspoonful, or from twenty to thirty grains, combined with aromatics. It makes a valuable addition to all the alterative sirups in cases where the liver is supposed to be inactive. In inflammatory rheumatism, twenty grains given every two hours have been found beneficial when other means failed. The resin of mandrake, called PODOPHYLLIN, is an excellent substitute for the powdered root, to be given in grain doses. It will be found very valuable in all hepatic and other obstructions of the viscera.

GENUS PORTULACEA.—Calyx 2-cleft, inferior; corol 5-petalled; capsule 1-celled, opening transversely; columella 5, filiform.

NO. 194.—PURSLANE.

Common Names.—Garden Purslane, &c.

P. OLERACEA.—Leaves wedge-form; flowers sessile.

Description.—This is an annual succulent plant, found growing spontaneously in gardens and cultivated grounds in Europe, America, and indeed in most parts of the world. It has an herbaceous and slightly saline taste, and is often used as greens, boiled with other vegetables and meat. The stalk is vine-like, a foot or more in length, with a smooth, reddish, brittle stem, and thick, fleshy leaves.

Properties.—It is considered sub-astringent, febrifuge, and a cooling diuretic, and is recommended for all affections of the urinary organs, calculus, &c. It will also be found useful in scurvy and gonorrhœa. It is vaunted as an antidote in cases of poisoning from cantharides, with what truth I know not from experience; but at all events, the plant is held in much esteem, and has received more attention in various parts of Europe than in this country.

Employment.—It should be taken freely in decoction, and the green leaves and young stalks used as a salad.

GENUS SANGUINARIA.—Calyx deciduous, 2-leaved; corol 8-petalled; stigma sessile; silique ovate, 1-celled, 2-valved, acute at each end.

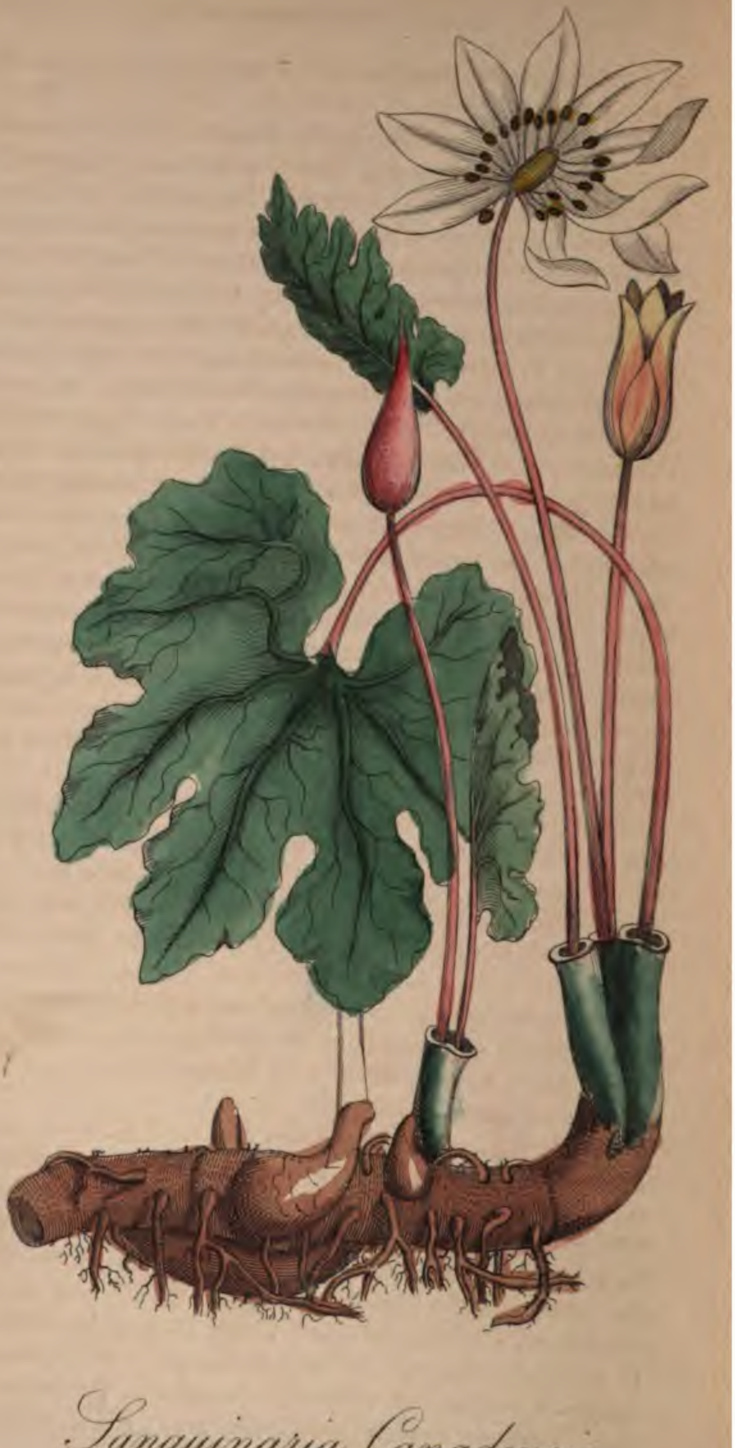
NO. 195.—BLOOD-ROOT.

Common Names.—Red Puccoon, Red-root, &c.

S. CANADENSIS.—Scape simple, 1- flowered; leaves lobed; flower white; root tuberous, reddish, horizontal.

Description.—Scape uniflore, proceeding from one end of the root, rising perpendicularly to the height of six or eight inches; one solitary leaf, radical, reniform, and lobed, attaining its full height only after the blossoming of the plant; calyx 2-leaved, deciduous; petals eight; stigma sessile, 2-grooved; capsule superior, oblong, 1-celled, 2-valved; apex attenuated; receptacles two, filiform, marginal; seeds small, round, and black.

The blood-root is indigenous to this country, and is found growing in low grounds among rocks, in meadows, or in woods near meadows. The root is tuberous, of the size of the finger, two or three inches long, with a curvature at each end; several roots connected together by numerous fasciculate fibres, originating from the main body, brown externally; when cut, a juice of a reddish-orange color is abundantly discharged through numerous pores. The dried root is wrinkled, having considerably diminished in size; its fracture is resinous, and of a deep-red color. Its taste is bitter, acrid, and pun-



Sanguinaria Canadensis.

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gent, leaving an impression in the fauces for some time after it has been chewed.

Properties.—According to Dr. Fitzgerald Bird's analysis, the blood-root appears to contain cinchona, extractive matter, a gum, resin, and gallic acid in a state of combination. The coloring principle of the root resides chiefly in its resinous parts, the alcoholic solution being always more than twice as highly colored as the aqueous. Dr. Dana, of New York, obtained from it a peculiar alkaline substance, which has been called SANGUINARA.

The root is emetic, cathartic, sudorific, emmenagogue, detergent, expectorant, &c. The properties of the sanguinaria have been variously represented by different authors. Bigelow considers this root as an acrid narcotic; Bird says that its medicinal properties are in every respect similar to those which characterize the Peruvian bark; and Barton valued it chiefly for its emetic and expectorant powers. Its properties are certainly very peculiar, being capable of producing tonic, narcotic, stimulant, or emetic effects, according to the dose and form in which it is administered: in a large dose, it causes nausea, heat in the stomach, faintness and often vertigo, indistinct vision, and finally vomiting. These effects are produced by doses of from eight to twenty grains; in smaller quantities, its effects on the pulse are analogous to those of digitalis, which I have observed in several instances. Given in doses not sufficient to cause nausea, it acts as a stimulant and tonic. When applied in the form of powder to fungous flesh, it evinces pretty active escharotic properties.

The sanguinaria has been used with essential benefit in protracted and distressing affections of the chest. It is also spoken of favorably in diseases of the lungs and liver. In plethoric constitutions, when respiration is very difficult, the cheeks and hands livid, the pulse full, soft, vibrating, and easily compressed, the blood-root has done more to obviate the symptoms and remove the disease than any other remedy used. It should be administered in large doses in cases of this kind, and repeated until it produces vomiting. It is likewise very beneficial in bleeding at the lungs, influenza, hooping-cough, and croup, in which latter disease it must be given in a sufficient quantity to cause vomiting.

Dr. Francis, of this city, states that he has employed this remedy with advantage in a formidable case of rheumatism occurring in a gouty habit, the patient having been previously prepared by cathartics and sudorifics. Thirty drops of the saturated alcoholic solution were taken three times a day. In hydrothorax, give doses of sixty drops three times a day, and increase the quantity until nausea follows each dose. I have administered the saturated tincture in doses of about twenty drops a day, with decided benefit, in an asthmatic affection: in this instance the pulse became reduced about ten strokes a minute. In a case of weakness of the breast, accompanied with copious mucous expectoration, it produced a similar diminution of the action of the pulse.

Applied externally, the sanguinaria is a valuable escharotic. Either in powder or as a wash, it has cured ill-conditioned ulcers, with callous edges and ichorous discharges, various herpes, ring-worms, &c. It removes fungous tumors and excrescences, and even soft polypus, by being used like snuff, and producing detumescence. In confirmed phthisis it is only a palliative. It must not be given to pregnant women, since it is known to act powerfully on the uterus, and even to cause abortion, whence its use in amenorrhœa. It may be employed in powder, electuary pills, sirup, extract, decoction, wine tincture, and common tincture; but the doses must be regulated by the cases. It loses much of its strength by keeping after being powdered or prepared in any other manner, but the dry roots keep very well for a considerable period.

Although the roots alone are commonly employed, the leaves have some of the same properties, and are powerful and even deleterious stimulants. Farriers use them in diseases of horses, to make them sweat, shed their coat, &c. The seeds are violently narcotic, similar to those of stramonium, and producing fever, delirium, dilatation of the pupil, and other unfavorable symptoms. They have sometimes been employed as incitants, diaphoretics, and diuretics, but are not to be regarded as a safe remedy. They are seldom collected, although the roots are gathered in summer, when the seeds are ripe.

Employment.—As an emetic, the dose of the powdered root is from 10 to 15 grains. It is given also in the form of sirup, infusion, tincture, and extract, as indicated above. In malignant scarlet fever, add from 20 to 30 grains, or a teaspoonful, to half a pint of boiling water; strain the infusion, and sweeten with honey: dose, a teaspoonful for a child of from two to four years of age, repeating it every hour through the day if the child can bear it. If the surface gets broken, and becomes ulcerated, wash the parts with the same infusion.

It is used in bilious, herpetic, and pulmonary affections, as an expectorant, deobstruent, tonic, and antiseptic, creating a healthy action in the biliary organs and stomach. Dr. Wolcott states that two drams of the root, put to half a pint of boiling water, is highly beneficial in pneumonia, attended with expectoration of mucus streaked with blood. It should be given after the action of a gentle emetic and mild laxative. Dose of the above infusion, a teaspoonful every two hours throughout the day.

A wine tincture, made by adding one ounce of the pulverized root to a quart of wine, and taken in doses of a wineglassful three times a day, forms an excellent alterative, and is beneficial in eruptions and all impurities of the blood. The blood-root enters into our *Pulmonary Sirup*, *Emetic*, and *Expectorant Tincture*.

Tilia-flowers, are fragrant, cephalic, sudorific, anodyne, anti-spasmodic, &c. They contain a peculiar substance, called TILINE, which is soluble in water only, a yellowish-brown gum, tannin, salts, &c.

Employment.—The leaves and bark are used as poultices. The flowers are employed in infusion for headache, vertigo, epilepsy, spasmodic cough, and other complaints.

Orders II to V. Di-Pentagynia.—Including four orders.

GENUS ACONITUM.—Calyx pentasepalous, petaloid, the upper sepal arched and helmet-shaped; petals 2, peduncled, recurved.

NO. 198.—ACONITE.

Common Names.—Monkshood, Wolfsbane, &c.

A. NAPELLUS.—Upper sepal arched posteriorly; spur of the nectary nearly conical and bent down; divisions of the leaves cuneate, pinnatifid, and scored with a line; ovaries from 3 to 5.

Description.—This is a perennial plant, found on high mountains; it is common in Germany. It grows two to five feet high; the leaves are lobed, deeply lancinated, standing alternate upon long foot-stalks, the surface of the leaf of a deep green, the under side whitish; the flowers are numerous, terminal, of a deep purple, and hood-shaped.

Properties.—The fresh plant and root are very violent poisons, producing remarkable debility, paralysis, and other consequent symptoms. By drying, their acrimony is almost entirely destroyed. For medical use the root must be gathered before the stem shoots. When properly administered, it acts as a penetrating stimulus, and generally excites perspiration, and sometimes an increased discharge of urine. On many occasions it has been found a very effectual remedy in glandular swellings, venereal nodes, stiffened joints, amaurosis, gouty and rheumatic pains, intermittent fevers, and convulsive disorders.

No very accurate chemical analysis has been made of this plant. It contains an acrid volatile principle, green coloring matter, vegetable albumen, some salts, and a peculiar alkaloid, first discovered by Brande, and named by him ACONITINA.

Employment.—The powder of the root and leaves is given in doses of from three to twelve grains, gradually increased until some effects are produced. The internal use of this agent, however, we have never recommended, although it has sometimes succeeded. In chronic headache the extract has been successfully employed, preceded by an aperient. The strong tincture applied outwardly is excellent in neuralgia and pleurisy, and some take from five to fifteen drops inwardly at the same time.

stem. The flowers are bluish or purplish, supported on long foot-stalks, and form an elegant open spiciform raceme at the extremity of the stem. The calyx is petaloid and deciduous, the upper sepal extended behind into a long tubular spur; the corolla is usually divided into four petals placed in front within the row of sepals; the two superior are narrow, small, and at the base drawn out into spurs like that of the sepal in which they are both enclosed; the outer two are roundish and plaited at the edges. The filaments are numerous, awl-shaped, and crowned with oblong yellow anthers; the germs are three, superior, close together, tapering, downy, and furnished with short, filiform styles, terminated by simple stigmas. The three capsules are ovate-oblong, tapering, pointed, with one valve opening internally, and contain many rough, brown, triangular seeds.

Properties.—The seeds of this species of *Delphinium* are rough and blackish without, and of a light yellowish color within; their odor is slightly fetid; to the taste they are intensely bitter, acrid, and nauseous, and when masticated powerfully excite the salivary secretion, and inflame the fauces. MM. Lassaigne and Feneulle have discovered in the stavesacre a vegetable alkali which they have named DELPHINIA, from a supposition that the acrid qualities of the whole family depended upon this principle: an opinion, however, which has not been confirmed by the analysis of other plants belonging to it. The seeds produce vomiting, drastic purgation, and inflammation, and are never administered internally. Formerly they were used as a masticatory for toothache, but they are too acrid to be recommended even for this purpose.

Employment.—Externally applied, the seeds are said to be efficacious in scabies and fungous ulcerations; but their chief and most valuable virtue is that of destroying *pediculi* in the head, when mixed and used with hair-powder. *Delphine* has not been employed as a medicine, nor are its effects on the animal economy known.

GENUS HYPERICUM.—Calyx 5-parted; divisions equal, sub-ovate; corol 4-petalled; filaments often united at the base in 3 or 5 sets; styles 2 to 5; capsule membranaceous, roundish, with a number of cells equal to the number of styles. The bases of the filaments are often in groups when they are not united.

NO. 201.—JOHNSWORT.

Common Names.—St. Johnswort, &c.

H. PERFORATUM.—Erect, branching; stem 2-edged; leaves oblong, obtuse, transparently punctate; panicle terminal, branchiate, leafy; petals longer than the acute, lanceolate calyx.

Synonym.—*Hypericum virginicum*, Walter.

Description.—This plant rises two feet high, with spreading branches from the sides to the top of the round, hard, upright stalks, with two small leaves set one against the other throughout, of a deep-green color; the flowers stand on the heads of the branches, and are yellow, 5-leafed, with many yellow threads in the middle, which, when bruised, yield a reddish juice like blood, and produce small round heads containing the seeds, which are black, and smell like resin. The root is hard, with many fibres, of a brownish color. It grows in meadows, pasture-grounds, churchyards, &c., and the flowers appear during the latter part of June.

Properties and Uses.—Johnswort is vulnerary, pectoral, pellant, and nervine. The tops and blossoms are chiefly used; although yellow, they dye oils red, and are infused in bear's-oil, sweet-oil, &c. They make a good balsamic ointment for wounds, sores, swellings, ulcers, tumors, and rough skins. The tea of the leaves gives relief in obstructed perspiration, diseases of the breast and lungs, and promotes the excretion of urine; it is likewise used in diarrhœa, menorrhœa, hysterics, hypochondria, mania, low spirits, &c. A sirup of johnswort, combined with sage, is a specific for coughs: dose for a child twelve months old, a tablespoonful; for one six months old, half a tablespoonful. An ointment, composed of this article, with bittersweet, elder-bark, and stramonium, is said to be a specific in hard indolent tumors of the breast. For diarrhœa, or flux, put two ounces of the flowers in a quart of good brandy, and, after giving a dose of rhubarb, the patient may take a wineglassful of the brandy night and morning until well.

GENUS NIGELLA.—Calyx none; petals 5; nectaries 5, 3-cleft, within the corol; capsules 5, convex.

NO. 202.—NUTMEG-FLOWER.

Common Names.—Small Fennel-Flower, &c.

N. SATIVA.—Pistils 5; capsules muricate, roundish; leaves sub-pilose, pinnatifid.

Description.—This is a small annual plant, from nine to fifteen inches in height, growing wild in Syria and the south of Europe, and cultivated in various parts of the world.

Properties.—The seeds, which are sometimes kept in the shops under the name of *semen nigellæ*, are ovate, somewhat compressed, about a line long and half as broad, usually 3-cornered, with two sides flat and one convex, black or brown externally, white and oleaginous within, of a strong, agreeable, aromatic odor, like that of nutmegs, and a spicy, pungent taste. Their chief constituents are a volatile and fixed oil. They are analogous to the other aromatics in properties.

GENUS PÆONIA.—Calyx 5-leaved; corol 5-petalled, increased to a great number by culture; capsules pod-like, many-seeded.

NO. 203.—PEONY.

P. OFFICINALIS.—Leaves decompound, naked; leaflets lobed, broad, lanceolate; capsules nearly erect, downy.

Description.—The peony rises to the height of two or three feet; the stalks are large, green, and branching; the leaves are tolerably large, toothed, and red-colored; the flowers are terminal, standing on the top of the main stalks; petals red, cordiform: in the centre there are three seed-vessels, containing round black seeds when ripe; the roots are numerous, thick, long, spreading, and running deep into the ground. It is cultivated as an ornamental flower, and is found growing in gardens throughout the United States.

Properties.—The fresh roots and seeds of the peony have a faint, unpleasant smell, somewhat of the narcotic kind, and a mucilaginous, sub-acrid taste, with a slight degree of bitterness and astringency. In drying, they lose their smell and part of their taste. Extracts made from them by water are almost insipid, as well as inodorous; but those formed by rectified spirits are bitter and somewhat astringent. The flowers have more smell than the other parts of the plant, and a sweetish taste, which they impart, together with their color, to both water and spirit. The roots, flowers, and seeds, of this plant, have been esteemed in the character of an anodyne and corroborant, but more especially the roots, which, since the days of Galen, have been employed as a remedy for epilepsy and various nervous affections.

Employment.—The peony is an article seldom used alone. The dose of the powdered roots or seeds is from 30 to 40 grains. It enters into our *Anti-spasmodic Sirup* for epilepsy.

Class XIII. Polyginia.—Bearing flowers with more than ten styles.

GENUS ANEMONE.—Petals 5 to 9; seeds numerous, naked. The corol is considered a calyx by some.

NO. 204.—PASQUE-FLOWER.

Common Names.—Wind-Flower, Meadow-Anemone, &c.

A. PRATENSIS.—Peduncles involucred; petals straight; leaves bi-pinnate.

Description.—The *A. pratensis* and *A. pulsatilla* are European, and are not cultivated in this country. We have several native species, but which have never been employed. They contain a peculiar crystallizable principle, named ANEMONIN, which is converted into *anemonic acid* by the action of the alkalies.

Properties and Uses.—The bruised leaves and flowers are said to cure tinea capitis when applied to the part. The inhabitants of Kamschatka, it is believed, poison their arrows with the juice of the *A. nemorosa*. The *A. pratensis* and *A. pulsatilla* are very analogous species, and are employed for similar purposes. The former came into use on the authority of Baron Storck, who recommended it as an effectual remedy for most of the chronic diseases affecting the eye, particularly amaurosis, cataract, and opacity of the cornea. He also states that he found it of great benefit in syphilitic nodes, nocturnal pains, ulcers, caries, indurated glands, suppressed menses, melancholy, and palsy. In its recent state it has scarcely any smell; but the taste, when chewed, is extremely acrid, corroding the tongue and every part of the mouth which it touches. Much has been said in favor of the pulsatilla, in relation to its efficiency in obstinate diseases of the skin, and in hooping-cough. Störck employed the herbaceous part of the plant made into an extract, of which at the commencement of his treatment he gave one or two grains, gradually increasing the dose, until he found he could safely administer from twenty to twenty-five, and in some cases even thirty-five grains. Large doses produce nausea and vomiting, and sometimes griping and looseness of the bowels, but very seldom act as a diuretic. None of the anemones are of much importance in a medicinal point of view, their uncertain and acrid properties preventing their use, when better articles can be procured.

GENUS CLEMATIS.—Petals 3, 4, 5, or 6; seeds compressed; styles permanent, becoming long plumose tails.

NO. 205.—VIRGIN'S BOWER.

Common Names.—Traveller's Joy, &c.

C. VIRGINICA.—Climbing; leaves ternate; leaflets ovate, sub-cordate, gash-toothed, and lobate; flowers panicled, diœcious.

Description.—This is an indigenous, climbing plant, growing from fifteen to twenty feet in height, all over the United States. It bears a white blossom, and flowers in July.

Properties and Uses.—The bark, leaves, and blossoms, are very acrid, and will cause blisters on the skin, and act as a corrosive poison taken internally; but all this virulence of action is dissipated by heat, coction, and dessication. The extract is used for osteocopic pains, in doses of from one to two grains. It is made an ingredient in an oily ointment for the itch; and some employ it, in minute doses, in chronic rheumatism, palsy, ulcers, &c.

The *Clematis erecta*, or upright virgin's bower, is the European plant, which possesses similar properties. When bruised in a mortar the leaves and flowers irritate the eyes and throat, giving rise to a flow of tears and to coughing; and applied to the skin they produce inflammation and vesication. Hence the name of *flammula Jovis*, by which the plant was known in older pharmacy. The acrimony is greatly diminished by drying. Störck found this species of *Clematis* useful in secondary syphilis, cancerous and other foul ulcers, and severe headaches. He gave it internally, and at the same time applied the powdered leaves to the surface of the sore. It acted as a diuretic and diaphoretic. Two or three drams of the leaves were infused in a pint of water, of which he administered four ounces three times a day. He also employed an extract, in the dose of a grain or two in the course of a day. At present the plant is not used, in either Europe or America.

GENUS COPTIS.—Petals 5 or 6, caducous; nectaries small, 5 or 6 cowled; capsules oblong, 5 to 8, stiped, stellate, beaked, many-seeded.

NO. 206.—GOLD-THREAD.

Common Names.—Mouth-root, Vegetable Gold, &c.

C. TRIFOLIA.—Scape 1-flowered; leaves ternate; roots long, filiform, yellow.

Synonym.—*Helleborus trifolius*, Linn.

Description.—The roots of this plant are perennial, creeping, of a bright-yellow color, and with many small fibres; the condex or base of the scapes and radical leaves are covered with imbricate scales, ovate, acuminate, and yellowish; the leaves are evergreen, on long, slender petioles, proceeding from the condex, with ternate folioles, sessile, rounded, or obovate; base with an acute margin and unequal acuminate crenatures and lobes; surface smooth, firm, and veined. The flowers are about half an inch wide, with white corolliform calyx of five, six, or seven folioles; petals oblong, obtuse, and concave; as many shorter ones, obovate, hollow, yellow at the top; pistils from five to eight; styles short and curved; stigmas acute; capsules like the pistils, naked, the calyx having fallen off; umbellate.

This plant grows from Canada to Greenland and Iceland on the east, and to Siberia on the west. Its most southern limits are New England, New York, and the shores of Lake Erie. It is commonly found in mossy swamps and bogs of evergreen woods; but also on the rocks of the White mountains, and in Labrador and Newfoundland. It flowers early in the spring of the cold regions, or in May in our latitude.

Properties.—The roots of gold-thread are the only part used; they are of a fine golden color, whence they derive their name. They ought to be collected in the summer, and are easily dried, but difficult to pulverize. They are of a pure and intense bitter, without smell or astringency, containing extractive matter, and a bitter principle, soluble in boiling water and alcohol: the tincture is yellow. The roots are a valuable tonic and stomachic, promoting digestion and strengthening the viscera; they are useful in dyspepsia, debility, and convalescence from fevers; and are a very good substitute for quassia, gentian, colombo, &c.

Employment.—Of the powder, from 10 to 20 grains may be given three times a day. The tincture, made with an ounce of the root added to a pint of diluted alcohol, should be administered in teaspoonful doses three times a day. The root is most commonly given in infusion, sweetened with honey, which also makes a good gargle in ulceration of the mouth.

GENUS HELLEBORUS.—Petals 5 or more; nectary 2-lipped, tubular; capsules 5 or 6, many-seeded, erectish, compressed.

NO. 207.—FETID HELLEBORE.

Common Names.—Bear's-foot, Setterwort, &c.

H. FŒTIDUS.—Stem many-flowered, leafy; leaves pedate, remotely serrate, coriaceous; corol somewhat converging.

Description.—This is an evergreen perennial plant, growing naturally in many parts of Britain, on pastures and in thickets, particularly on a calcareous soil. According to Sir James E. Smith, it grows abundantly on the castle hill at Castle-Acre, in Norfolk county; and Gerarde, who lived in the sixteenth century, says that it was wild in his time in many woods and shady places in England. Dr. Hooker, in his "Flora of Scotland," states that it also occurs plentifully on the banks of the Clyde at Blantyre priory; on old walls at Barncluish, in the vicinity of Glasgow; and between Anstruther and Kepply, near Edinburgh; but that it is scarcely indigenous. It is a well-known plant in gardens, flowering in March and April.

The root is small, bent, and surrounded by numerous dark-colored fibres; the stem rises to about two feet in height; toward the bottom it is strong, round, naked, and marked with alternate cicatrices, the vestiges of former leaves; it is divided, and subdivided into branches, and compressed at the top, producing many flowers. The leaves, which stand upon long channelled foot-stalks, surrounding the middle of the stem, are divided, as in black hellebore, into several leaflets, usually seven or nine in number, long, narrow, serrated, lanceolated, and of a dark-green color. The flowers are numerous, terminal, drooping, of a pale green, and stand upon long foot-stalks, forming a sort of panicle; the sepals are five, ovate or heart-shaped, concave, permanent, and tinged at the apex with reddish purple; the petals are eight or ten, minute, tubular, placed in a circle within the sepals, and at the base nectariferous.

Properties and Uses.—The whole plant is acrid, and violently cathartic; it sometimes operates as an emetic, and in large doses is highly deleterious. It is used as a vermifuge; the dried leaves, in powder, are given in from ten grains to half a dram, but its doses do not appear to have been precisely ascertained. The best form for children is a sirup. It is also employed in hypochondria, asthma, and nervous diseases; but it is a dangerous remedy, and I can not recommend its use.

NO. 208.—BLACK HELLEBORE.

Common Names.—Christmas Rose, &c.

H. NIGER.—Scape 1 or 2 flowered, nearly naked; leaves pedate.

Description.—This is a perennial plant, growing in the mountains of the Vosges, and in the provinces of Dauphiny and Provence (France), flowering about Christmas. The stem is subterraneous, horizontal, and articulate; the leaves are apparently radical, petiolate, 7 or 8 lobed, tough, dentate, and oboval; flowers one or two upon a scape, from two to six inches high, appearing upon foot-stalks, and consisting of five large, round, white petals, of a pink color, sometimes purple on the edges, with two bracts; calyx regular, persistent, 5-parted; corolla ten or twelve. The root is of the length and size of the little finger, gray or reddish internally, blackish externally, marked with circular rings, not distant from each other, and furnished with numerous radical fibres. Its taste, which at first is acrid and bitter, seems to paralyze the tongue; its odor is nauseous.

Properties.—The root contains, according to Feneulle and Capron, a fatty and slightly acrid oil, a resinous matter, an odorous volatile acid, a bitter principle, wax, &c. Water and especially alcohol take up its active principles, which are mostly lost by long ebullition.

The root of this plant was much used by Hippocrates, Galen, and their successors, who esteemed it as a most valuable cathartic. It has likewise obtained the name of *Melampodium*, from Melampus, a Greek physician, who first discovered it, of whom it is recorded that he acquired immense wealth and renown by restoring to reason the daughters of an eastern monarch, the hellebore being the only article which he employed. It is most probable that the powers of this plant in mental affections are altogether owing to its griping effects, and to the active and violent evacuations which it occasions from the bowels. It is well known that very active cathartics will sometimes entirely subdue the fiercest forms of mania, and that they will also arouse the sensibility of the system in the lowest stages of melancholy. It is said that in these cases, the more griping the purgative, the greater its effects will be. We have occasionally used the black hellebore in obstructed menses, dropsy, epilepsy, and cutaneous diseases.

Employment.—The dose of the powdered root is from ten grains to a scruple; of the infusion, made by adding two drams of the plant to a pint of boiling water, give one ounce every four hours. For obstructed menses, take equal parts of the tincture of hellebore and tincture of logwood, of which one or two teaspoonfuls may be given three or four times a day.

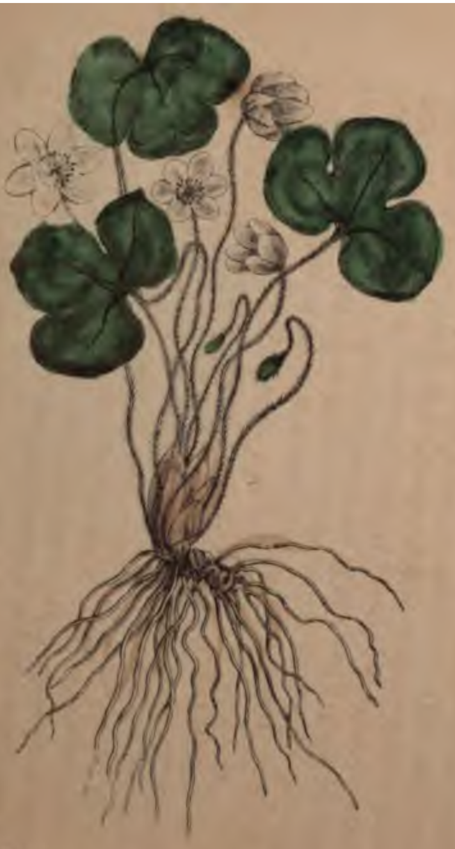
GENUS HEPATICA.—Calyx 3-leaved, a little distance below the corol, entire; petals 6 to 9; seeds without tails.

NO. 209.—LIVER-LEAF.

Common Names.—Liverwort, Noble Liverwort, &c.

H. TRILOBA.—Leaves radical, 3-lobed; lobes entire; petioles and scape hairy; scape 1-flowered; flowers blue.

Description.—The root of the liverwort is perennial and fibrose; fibres long, fasciculate, and brown; leaves all radical, on long, hairy petioles, somewhat leathery and partly persistent in winter; base cordate, divided into three equal, entire lobes, rounded, obtuse, or acute, purplish above, glaucous and purplish beneath; the flowers are terminal, drooping at first, spreading when unfolded; involucre resembling a calyx, very hairy; hairs gray and long; segment very deep, oval, entire, obtuse; anthers elliptical, and of a pale yellow; pistils and seeds oval, acute.



Hepatica Triloba

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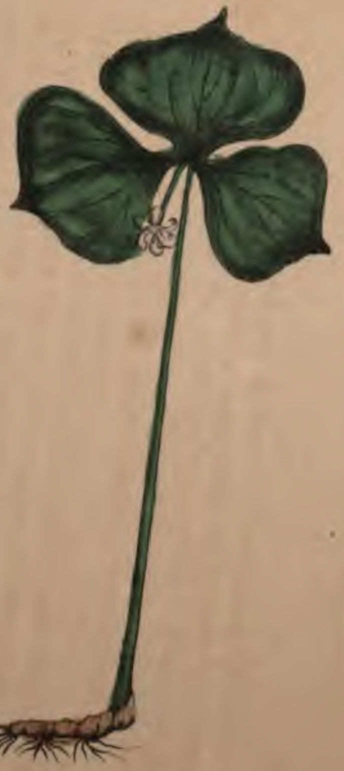

Trillium Purpureum.

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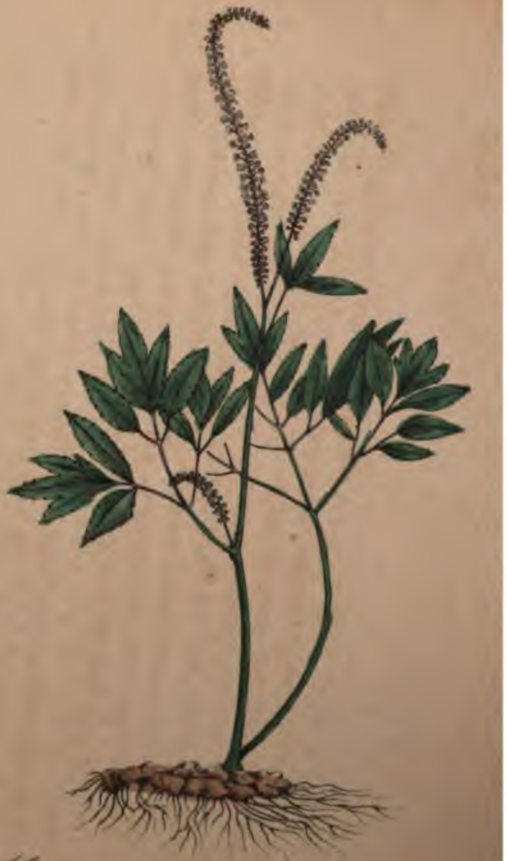

Macrotys Racemosa.

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This is a vernal plant: the leaves live through the winter, the flowers appearing early in the spring, sometimes while the snow is yet falling, and continuing from March till May. It is a native of the northern parts of Europe, Asia, and America, growing on the latter continent from Labrador to Virginia, and westward to the Pacific. It is found in woods, hills, and mountains, throughout all the northern United States. It was known to the ancients as a medical plant, and Linnæus has it in his materia medica; but it had fallen into disuse, its properties being very mild.

Properties.—Liverwort has no smell, and very little taste; it is not bitter, but somewhat astringent and mucilaginous, and contains tannin, mucilage, extractive, &c. Its properties are sub-tonic, sub-astringent, deobstruent, pectoral, and demulcent, and is much employed in fevers, liver-complaints, indigestion, hypochondria, &c. It is also useful for bleeding at the lungs and for coughs of long standing, and has been employed with benefit in complaints arising from dyspeptic and hypochondriac affections. Its effect upon the lungs is that of a mild demulcent and astringent.

Employment.—It may be given in the form of infusion, either warm or cold, and drank freely, without regard to quantity. It enters into the *Vegetable Sirup*.

GENUS HYDRASTIS.—Petals 3, ovate; berry composed of 1-seeded acines.

NO. 210.—GOLDEN SEAL.

Common Names.—Orange-root, Yellow Puccoon, &c.

H. CANADENSIS.—Stem with two opposite leaves above; leaves petioled, emarginate at the base, palmate, serrate, gashed; peduncle terminal, solitary, 1-flowered.

Description.—The root of the golden seal is perennial, of a bright-yellow color, tortuous, knobby, wrinkled, with many long fibres; stem about a foot in height, simple, straight, round, pubescent, base naked, top with two unequal alternate leaves. The first leaf is petiolate, cordate, palmate, 5 or 7 lobed, sinuses oblong and obtuse, lobes oval, unequal, acute, with irregular, sharp serratures and 5-branched nerves; the upper or second leaf is similar, but sessile, and commonly trilobe: these leaves are not quite expanded when the blossoms appear. The flowers are single, terminal, and on a peduncle shorter than the upper leaf; three petals or petaloid leaves, flesh or rose-colored, oval, obtuse, equal; many unequal filaments, shorter than the petals, linear and compressed; anthers oblong, obtuse, compressed; there are many pistils, oval, crowded, forming an oval head; styles very short; stigma dilated, compressed: the berry is red and oval, formed by many oblong grains or acines; fleshy, obtuse, muricated by the persistent styles, each one seeded; seeds oblong.

This plant is found from Canada and Maine to Carolina and Tennessee, in rich, shady woods, on the banks of streams, sides of hills, and in deep valleys; it is very common in western Kentucky, Indiana, and Ohio, but is rare in limestone plains. It is a pretty and singular plant, and easily known by its habits. It blossoms in March and April, and the petals are so caducous and fugaceous, that they fall off as soon as the blossoms expand, leaving the stamina and pistils bare.

Properties.—The golden seal is exceedingly bitter to the taste, rather pungent and nauseous, and the smell strong and virose. It contains amarine, extractive, several salts, and a peculiar principle of a yellow color, called HYDRASTINE. The plant is much used in Ohio, Kentucky, and other western states, as a wash for ophthalmic diseases, and is considered a specific by the Indians, who also employ it for sore legs and many external complaints. It is said to be equivalent to *Aletris* and *Coptis*, and often enters into compound remedies for the cancer, acting as a mild, detergent tonic, and the Cherokees are supposed to use it in that disease, but better detergents are known. The properties of this plant are not yet fully appreciated by physicians. It may be slightly narcotic, and is available in many disorders. Some of the Indian tribes employ it as a diuretic, stimulant, and escharotic, using the powder for blistering, and the infusion for the dropsy.

We have found the golden seal an excellent tonic, and at the same time laxative, which makes it very appropriate in dyspeptic disorders; also ophthalmic, detergent for old sores and ulcers, and stimulant. The juice or infusion is employed as a remedy for sore or inflamed eyes, but must be used with caution. Internally, it is given as a bitter tonic, in infusion or tincture, in disorders of the stomach and liver. A half-ounce of the dried pulverized roots is sufficient to infuse in a quart of spirits.

The golden seal, as a bitter tonic, is very valuable in convalescence from fevers, and to alleviate that state of the stomach which induces dyspepsia, loss of appetite, &c., and is certainly one of the best correctives of bile and bilious habits that can be given. It is likewise very beneficial, combined with gum-myrrh, as a gargle in sore mouth, &c.

Employment.—It may be given internally in powder or infusion; the dose of the powder is from 10 to 12 grains. Externally, it is applied in powder as an escharotic. The hydro-alcoholic extract is a convenient way of taking this medicine: dose from 5 to 10 grains. This plant enters into the *Wine Bitters.*

GENUS LIRIONDENDRON.—Calyx 3-leaved; corol 6 or 9 petalled, liliaceous seeds in a sub-lanceolate samara, imbricate on a strobile-like spike.

NO. 211.—WHITEWOOD.

Common Names.—Tulip-Tree, White Poplar, &c.

L. TULIPIFERA.—Leaves 3-lobed, truncated at the end.

Description.—This beautiful and noble tree rises sometimes to the height of one hundred and forty feet; its trunk is straight, and its branches regularly disposed; the leaves are large, 3-lobed, with the centre lobe truncated; the flowers are large, solitary, terminal, sub-campanulate, variegated with yellow, orange, and lake-green colors; stamina about thirty-six, disposed in simple series; pistils numerous; germs disposed in the form of a cone; the fruit is conical, composed of numerous thin and imbricated scales. This tree is indigenous to America, and found growing throughout the United States, on mountains and in low forests, flowering about the middle of May. Its timber is valuable.

Properties.—The bark of the whitewood is very bitter, slightly aromatic, and astringent. According to the analysis of Dr. Rogers, it contains gum, resin, muriatic acid, iron, calcareous salt, mucus, fecula, &c. The seeds are laxative. The bark of the tree and root is possessed of valuable tonic, antiseptic, and sudorific properties, and by some is considered one of the most effective substitutes for the Peruvian bark. It is likewise stimulant, but its virtues appear to consist mostly in its tonic powers. It occasionally acts as a diuretic, and most generally produces very conspicuous diaphoretic effects when largely given. The bark of the root is more tonic but less stimulant than that of the trunk.

Dr. J. T. Young says: "I have prescribed the bark in a variety of cases of intermittent fever, and can declare from experience that it is equally efficacious with the Peruvian bark, if properly administered." The same gentleman, speaking of its effects in mental disorders, remarks: "There is not, in all the materia medica, a more certain, speedy, and effectual remedy in hysteria, than the poplar-bark, combined with a small quantity of laudanum." In dyspeptic states of the stomach and bowels this is an excellent remedy, as well as in low fevers, dysentery, and chronic rheumatism, owing to its tonic and stimulant powers. In *phthisis pulmonalis*, accompanied with hectic fever, nocturnal sweats, and diarrhœa, it will frequently abate these troublesome and alarming symptoms, if given in combination with laudanum.

Employment.—The dose of the powdered bark is from one half to two drams; the infusion is made by adding from half an ounce to an ounce of the bark to a pint of boiling water. It enters into the *Wine Bitters*, and a fine cordial is also made from it. The leaves were used by the Cherokees in poultice for sores and headache, and in ointment for inflammations and mortifications. The ointment is also good for syphilitic ulcers of the nose.

GENUS MAGNOLIA.—Calyx 3-leaved; corol from 6 to 9 petalled; capsules numerous, imbricate, on a strobile-like spike, 2-valved; seeds arilled, pendulous on long cords, berry-like.

NO. 212.—CUCUMBER-TREE.

Common Names.—*M. acuminata*, Cucumber-Tree. *M. glauca*, Beaver-Tree, Swamp-Laurel, White Bay, Sweet Bay. *M. grandiflora*, Big Laurel, Magnolia. *M. tripetala*, Umbrella-Tree, &c.

M. ACUMINATA.—Leaves oval, acuminate, pubescent beneath; petals obovate, somewhat obtuse.

Description.—There are a number of species in this splendid genus that are very much alike in their medical properties. The *M. glauca, M. acuminata*, and the *M. tripetala*, however, are alone much used in practice. The first is a forest-tree, common to the eastern seacoasts of this country, but is found in the middle states, growing in swamps and morasses. It is a middling-sized tree, with a rough bark. The leaves are scattered, petiolate, oval, obtuse, entire, glabrous, thick, opaque, yellowish-green on the upper side, and pale glaucous beneath; the flowers are large, terminal, and cream-colored; the fruit is a cone about an inch long, consisting of numerous imbricated cells, each containing a single scarlet seed. The entire herbage, and particularly the flowers and cones of the tree, are exceedingly fragrant, and scent the air for a considerable distance.

The *M. acuminata* is a much larger tree, with foliage, flowers, and fruit, larger than those of the *M. glauca*. This tree is more common in the western states than the former. It is a common forest-tree, growing on rich hillsides and bottoms along the Alleganies and our western rivers. It is commonly called cucumber-tree, from the resemblance of the shape of its fruit to that of this garden product.

The *M. tripelata* is a small tree, but has very large leaves and flowers. The former are often as much as eighteen or twenty inches long, by six or eight in width; the flowers are seven or eight inches in diameter, with from four to twelve oval, acute, white petals. It is found in the middle, western, and southern states. Another species, the *M. grandiflora*, is a very large forest-tree, common in the southern states.

Properties.—From that old book on herbs, entitled "The English Physician, by Nick Culpepper, Gent., Student in Physic and Astrology," which has become exceedingly rare, the reader will pardon an extract, showing the surprisingly superstitious credence once placed upon the influence of astrology in determining the virtues of, and the times proper for gathering plants, and also the diversity of qualities attributed to them. Concerning the "bay-tree" (meaning the *M. glauca)* and its "government and virtues," Culpepper thus remarks: "It is a tree of the sun, and under the celestial sign Leo, and resisteth witchcraft very potently, as also all the evils old Saturn can do to the body of man, and they are not a few; for it is the speech of one, and I am mistaken if it were not Mezaldus, that neither witch nor devil, thunder nor lightning, will hurt a man in the place where a bay-tree is. Galen said that the leaves or bark do dry and heal very much, and the berries more than the leaves; the bark of the root is less sharp and hot, but more bitter, and hath some astriction withal, whereby it is effectual to break the stone, and good to open obstructions of the liver, spleen, and other inward parts, which bring the dropsy, jaundice, &c. The berries are very effectual against all poison of venomous creatures, and the sting of wasps and bees; as also against the pestilence and other infectious diseases, and therefore put into sundry treacles for the purpose. They likewise procure women's courses, and seven of them given to woman in sore travail of childbirth do cause a speedy delivery, and expel the after-birth, and therefore not to be taken by such as have not gone their time, lest they procure abortion or cause labor too soon. They wonderfully help all cold and rheumatic distillations from the brain to the eyes, lungs, or other parts; and being made into an electuary with honey, do help the consumption, old coughs, shortness of breath, and thin rheums, as also the megrim. They mightily expel the wind and provoke urines, help the mother and kill the worms. The leaves also work the like effects; a bath of the decoction of the leaves and berries is singularly good for women to sit in that are troubled with the mother or the diseases thereof, or the stoppings of their courses, or for the diseases of the bladder, pains in the bowels by wind, and stopping of urine; a decoction, &c., settleth the palate of the mouth in its place. The oil made of the berries is very comfortable for all cold griefs in the joints, nerves, arteries, stomach, belly, or womb, and helpeth palsies, convulsions, cramps, aches, tremblings, and numbness, in any part; weariness also, and pains that come by sore travelling. . . . . Pains in the ears are also cured by dropping in some of the oil, or by receiving into the ears the fume of the decoction of the berries through a funnel. It takes away the marks of bruises; it helpeth also the itch, scabs, and weals, in the skin."

We regard the bark of the root and the fruit of all the species as very excellent aromatic and slightly stimulant tonics. They were formerly considered to be anti-intermittent; but, although they have not maintained this character, they are certainly among the most valuable articles of this order. The cones, or *cucumbers*, as they are called, have long been a domestic remedy in dyspepsia, and a botanic physician states that he has employed them and an infusion of the bark with great success in that complaint. Both have been used with benefit in chronic rheumatism. As a general tonic in fever, especially in remittent and typhus, the magnolia is a very excellent article. In general debility, and in obstinate cases of amenorrhœa, the medicine will also be found as effective as any others of this order.

Employment.—The dose of the recently dried bark, in powder, is from half a dram to a dram. A tincture, prepared by macerating the cones and bark in diluted alcohol or brandy, is perhaps the best preparation. The infusion is also used, but is less efficient. The dose of the tincture is from two to four drams.

GENUS PORCELIA.—Calyx 3-leaved or 3-parted: petals 6, spreading, oblong-ovate, the inner ones smallest; anthers sub-sessile; stigmas sessile, obtuse; berries several, sessile, ovate, obtuse, many-seeded; seeds arilled.

NO. 213.—PAW-PAW.

Common Names.—Custard-Apple, &c.

P. TRILOBA.—Leaves smoothish, oblong, wedge-ovate; outer petals orbicular; fruit large, fleshy.——*Synonym.*—*Asimina triloba*, Ad.

Description.—This tree is found growing in Kentucky, Ohio, and other western states, and bears a palatable fruit. It has but lately attracted notice.

Properties.—A tincture of the seeds, in quite small doses, is an efficient emetic. Dr. Carter, of Kentucky, says that ten drops will effectually evacuate the stomach.

GENUS RANUNCULUS.—Calyx 5-leaved; petals 5, with a scale or pit at the base; stamina numerous; seeds and pistils many, united in a head.

NO. 214.—MEADOW CROWFOOT.

Common Names.—Butter-Cup, Yellow-weed, Blister-weed, &c.

R. ACRIS.—Pubescent, stem multiflore, erect, branched; leaves tri-parted, segments laciniate-acute, upper ones linear; peduncles not sulcated; calyx spreading, hairy.

Description.—The root of this plant is perennial, fibrose, and fasciculate; the stem is two feet high, terete, pubescent, and erect, with many branches and flowers; the leaves are alternate, petiolate, broadly tri-parted, pubescent; segments broad-lanceolate, with many unequal gashes, all acute: the upper leaves are almost sessile, with three linear, entire segments. The flowers are corymbose, large, and yellow, with peduncles unequal, not furrowed; calyx with five spreading folioles, hairy, oval, obtuse; petals rounded, entire; seeds in a globose head.

It is supposed to have been imported from Europe with grass-seeds, but now grows abundantly in our meadows and pastures, which it adorns with yellow blossoms in the spring. Although very acrid when fresh, it becomes mild by drying, and does not injure hay, being harmless to cattle, who carefully avoid it when growing; sheep and goats, however, eat it with impunity.

Properties.—The whole plant of all these species, but chiefly the roots, are of a burning, acrid, and corrosive taste, when fresh. They act on the skin as rubefacients and escharotics. These properties were known very anciently, and the plant was employed for common blisters before Spanish flies *(Cantharides)* came into general use. The acrid principle, like that of *Arum*, is volatile, and disappears by the application of heat, or even by dessication, but may be preserved by distillation. The distilled water is very acrid, and holds in solution a peculiar substance called ACROIDE, which crystallizes, is inflammable, and hardly soluble in any menstruum.

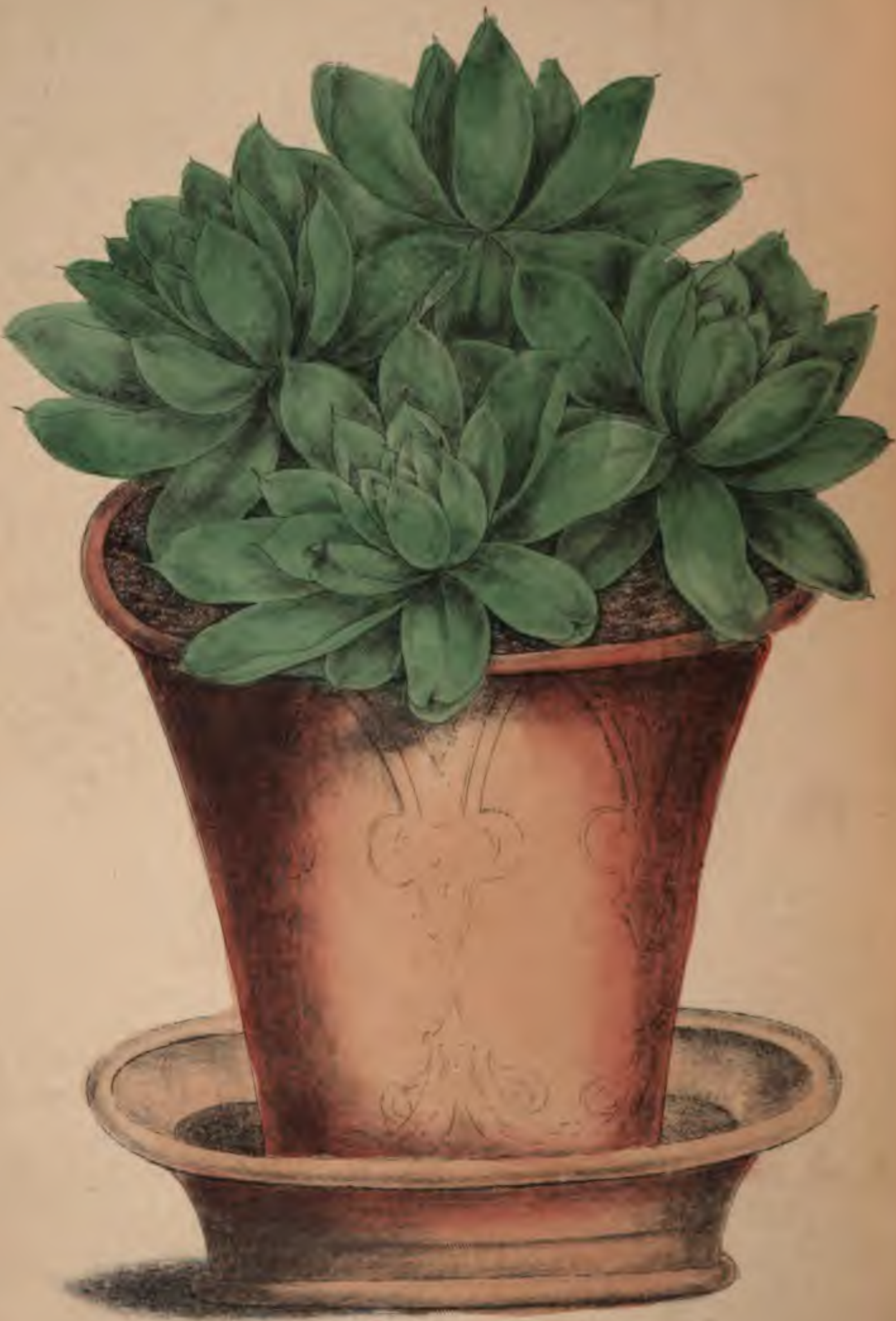
Employment.—Although this plant is often used externally in an ointment, as a vesicatory having the advantage of a quick effect, I prefer other agents for that purpose. It is given internally as an astringent.

GENUS SEMPERVIVUM.—Calyx 9 to 12 parted; petals 8 to 12; capsules 12, many-seeded; stamens 16 or 20.

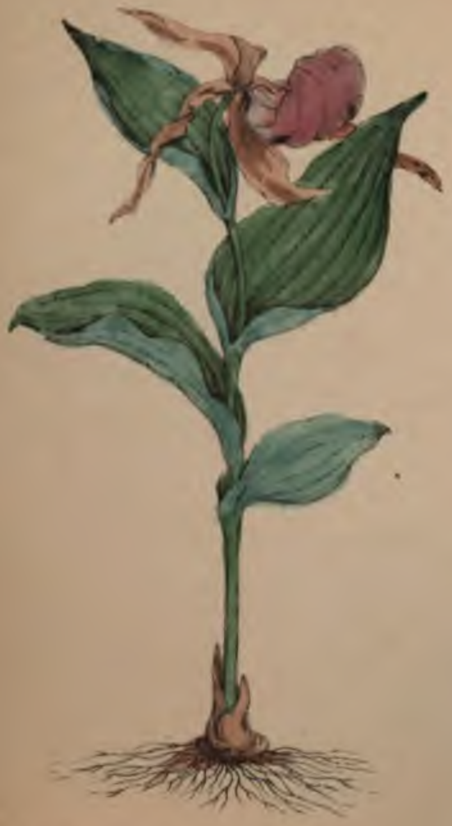
NO. 215.—HOUSELEEK.

Common Names.—Hen-and-Chickens, Live-for-ever, Sengreen, &c.

S. TECTORUM.—Leaves ciliate; bulbs spreading; nectaries wedge-form, crenulate.

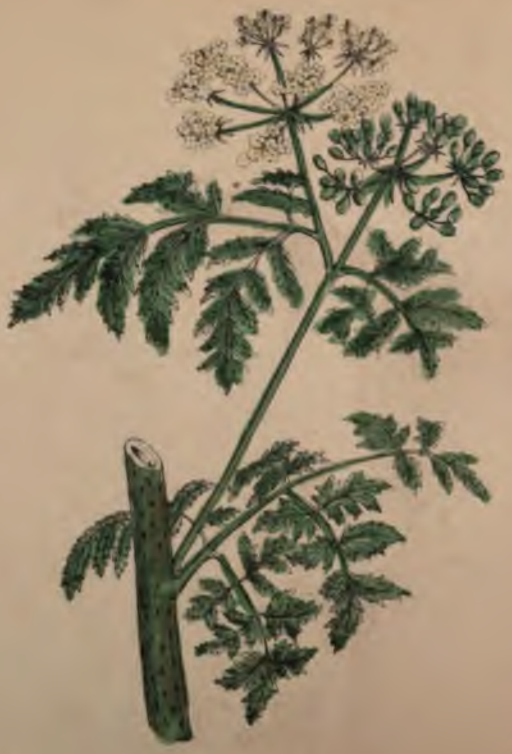


Sempervivum Tectorum.



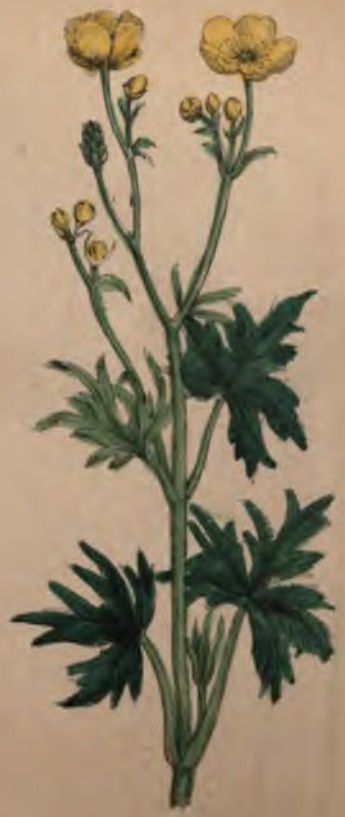
Cypripedium Pubescens

305



Conium Maculatum

76



Ranunculus Acris

214

Description.—This is a singular domestic and well-known plant, growing on the roofs of houses, and is a native of Europe. It is remarkably tenacious of life, and multiplies by numerous branches from the root, forming independent plants. The leaves are short, thick, and watery.

Properties.—Refrigerating, astringent, &c. It is employed in its recent state as a cooling application to ulcers, stings of insects, &c. The juice, mixed with cream, is good as an outward application for ophthalmia, burns, and all inflammations, especially those of an erysipelatous character; but I have also found it exceedingly valuable administered internally in febrile diseases. I have given it in the inflammatory types of fever with extraordinary benefit, and in one case with complete success where other means had failed. A friend of mine informs me that he has likewise administered it in numerous cases of fever, even without any preparatory course, and, to use his own expression, "*It cools the fever right down.*" It is also very beneficial in dysentery.

Employment.—Bruise the green leaves, and express the juice; add to the juice its weight of loaf-sugar, and form a sirup. After cleansing the stomach and bowels, give a tablespoonful every two hours until the symptoms subside. I obtained this formula, as a great favor, from a distinguished female physician of Philadelphia.

Class XIII. Didynamia.—Bearing labiate flowers with four stamens, two long and two short.

Order I. Gymnospermia.—Seeds without a pericarp.

GENUS CUNILA.—Calyx cylindric, 10-striate, 5-toothed, throat villose; corol ringent; upper lip erect, flat, emarginate; two of the stamens usually barren and very short, the other two exsert; stigma unequally bifid.

NO. 216.—AMERICAN DITTANY.

Common Names.—Mountain Dittany, Stone-Mint, Wild Basil, &c.

C. MARIANA.—Leaves ovate, serrate, sessile; corymbs axillary and terminal, dichotomous.

Description.—This is a pretty perennial plant, with a very fragrant odor, resembling that of the marjoram. It is peculiar to America, and is distinguished by its corymbose flowers, of a reddish-blue color, which blossom from July to September. The plant is found growing from New England to Kentucky and the Carolinas, among rocks on mountains and hillsides, but unknown in plains and alluvions. It has a warm, fragrant, aromatic, and pungent taste and smell, which it owes to an essential oil, easily extracted by distillation, and approximating to the oil of *Origanum* in its qualities, but is more balsamic. It is the most fragrant of all the native labiate plants, and the essential oil has a very strong balsamic smell.

Properties.—Stimulant, nervine, sudorific, sub-tonic, cephalic, &c. The whole plant is employed, and is usually taken in warm infusion, dittany-tea being a popular remedy throughout the country for colds, headaches, and for exciting a gentle perspiration. It partakes of the properties of all the grateful aromatic labiate plants, and also of chamomile, mayweed, and boneset, while it affords a more palatable drink, its fragrant tea being preferable to that of sage and *Monarda*, and having neither the pungency of mint nor the strong smell of pennyroyal. Golden-rod comes nearest to the dittany in its fragrance, but is weaker and less grateful. The tea relieves nervous headaches and hysterical disorders, and is used in the Carolinas, Kentucky, &c., in fevers to excite perspiration; also in suppressed menstruations, nervous diseases, colics, and indigestion. It is a good substitute for *Mentha piperita* in cholera morbus, relaxed stomach and bowels, and is also a carminative, employed in flatulency and to allay nausea. The southern Indians esteem it highly for colds, coughs, fevers, &c.; they smoke and chew the leaves as a fragrant substitute for tobacco, and in that respect at least it would be well to imitate them.

Employment.—It may be taken in infusion, as above indicated. Externally it is employed like the stone-root for bruises, sprains, &c., but is not so efficient. According to Schoepf, dittany was one of the plants resorted to for curing the bites of snakes, the juice being mixed with milk for that purpose. The essential oil possesses all the properties of the plant, and a few drops of it are sufficient to impart them to mixtures.

GENUS DRACOCEPHALUM.—Calyx sub-equal, 5-cleft; corol with the throat inflated; the upper lip concave, the middle division of the lower lip roundish, notched; stamens unconnected.

NO. 217.—MOLDAVIAN BALM.

Common Names.—Sweet Balm, Dragon's-hood, Balm-of-Gilead Herb, &c.

D. CANARIENSE.—Flowers spiked; leaves ternate, oblong.

Description.—This is an exotic, a native of the Canary islands, but extensively cultivated in our medical gardens. It is a pretty and aromatic herb.

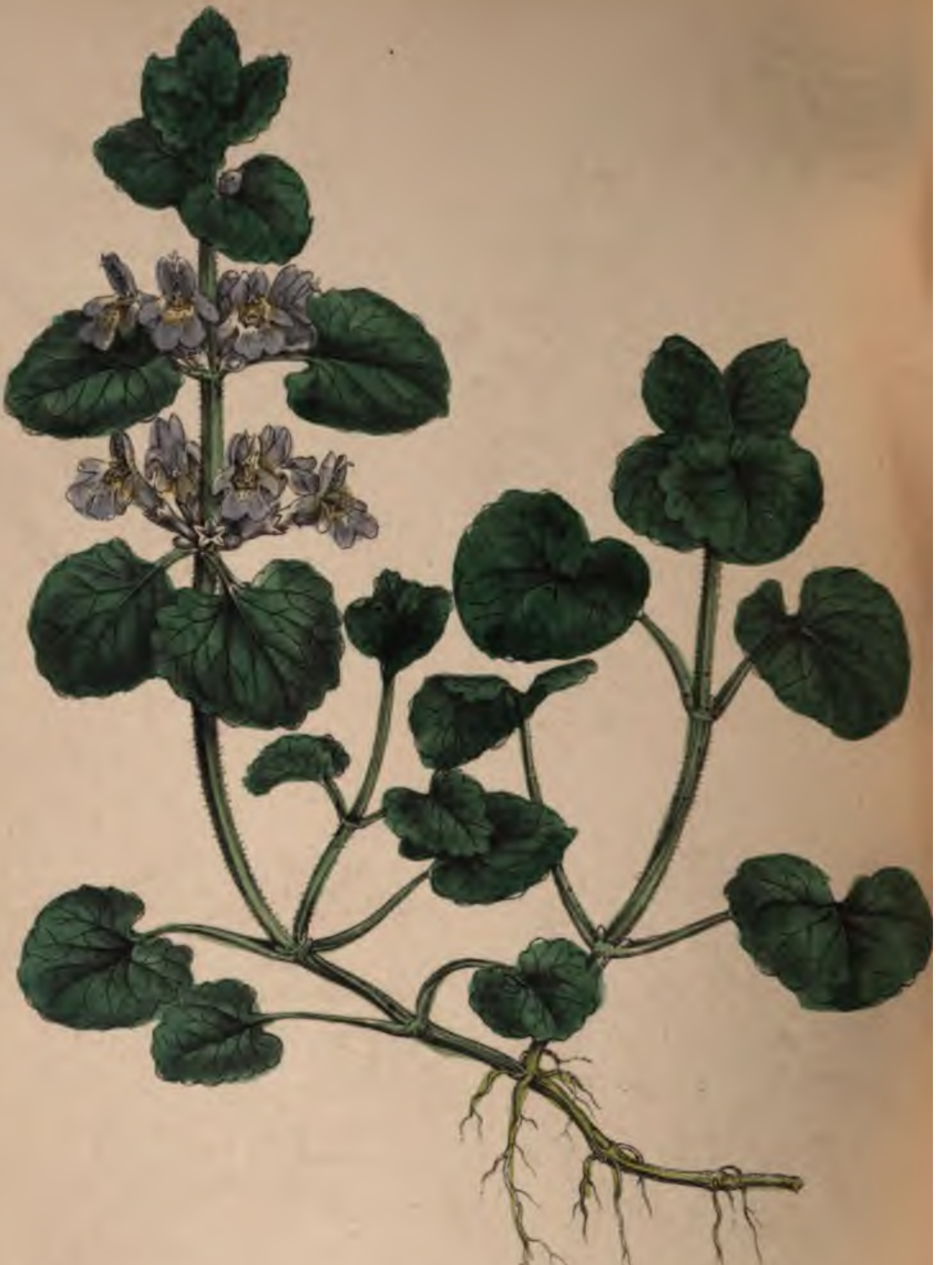
Properties and Uses.—Diaphoretic, nervous, and resolvent. It has been recommended as useful in headache and atrophy, and to promote healthy perspiration.

GENUS GLECHOMA.—Calyx 5-cleft; corol double the length of the calyx; upper lip 2-cleft, lower lip 3-cleft, with the middle segment, emarginate; each pair of anthers approaching so as to exhibit the form of a cross.

NO. 218.—GROUND-IVY.

Common Names.—Gill-go-over-the-ground, Ale-hoof, Catfoot, &c.

G. HEDERACEA.—Leaves reniform, crenate; stem rooting.



Glechoma Hederacea.

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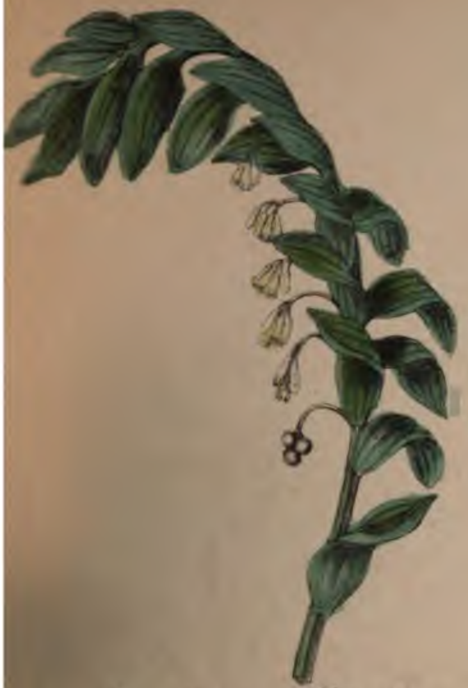
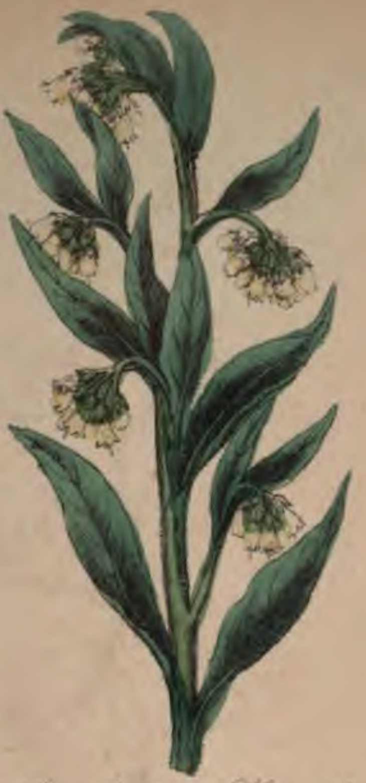


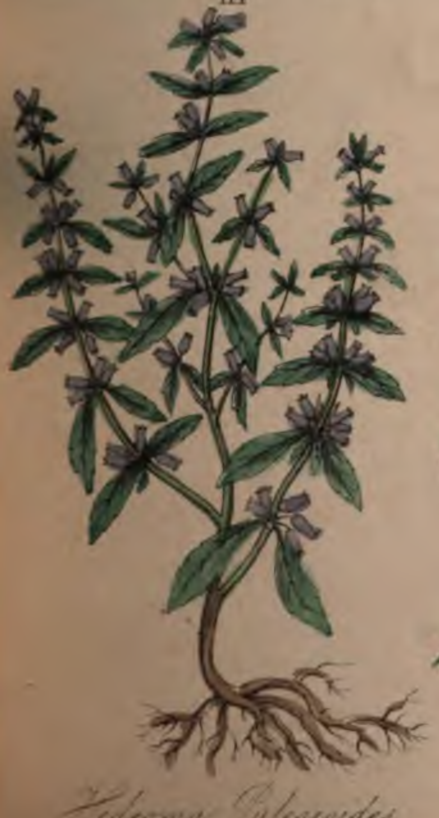
Convallaria Multiflora

114



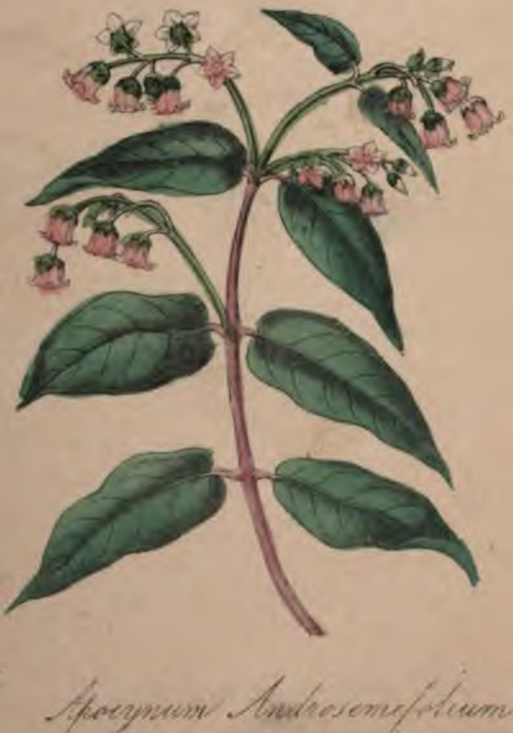
Symphytum Officinale

64



Hedeoma Pulegioides.

219



Apocynum Androsemifolium.

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Description.—This is a small perennial herb, indigenous to Europe and this country. The leaves are scolloped, hairy, in opposite pairs, having long petioles, which are channelled; the flowers are in whorls, of a bluish color, on short stems. This plant grows about garden fences, and on the sides of moist meadows. I have often observed it growing under hedges in the vicinity of London.

Properties.—The leaves of the ground-ivy, in decoction, are a good purifier of the blood, and an excellent pectoral. The decoction is also good in consumption, obstructions, laxity, and debility of the viscera; for cleansing and healing ulcers in the lungs, kidneys, and other internal parts; and is a valuable remedy in jaundice and asthmatic coughs.

It was formerly officinal, but, like many other valuable vegetable remedies, it has been thrown aside by allopathist physicians, to make room for others of a nature more deleterious and poisonous. It is considered to be gently stimulant and tonic, with perhaps a peculiar direction to the lungs and kidneys. The complaints in which it has been most used are chronic affections of the pulmonary and urinary organs, and at one time it had considerable reputation as a remedy in consumption.

Employment.—In infusion or decoction, about half a dram of the herb to a dose. It makes a good errhine, and has cured inveterate headaches by being snuffed up the nose. Infused in ale, it makes an excellent drink in scorbutic affections. An ointment made of the herb is excellent in chronic ophthalmia.

GENUS HEDEOMA.—Calyx bilabiate, 10-striated; base gibbous, upper lip trifid, lower with two sublate teeth, and ciliated bristles; corolla bilabiate, upper lip nearly entire, lower trilobed, middle lobe obcordate; 2 fertile stamina, as long as the corolla, 2 sterile and short; style 1; seeds 4.

NO. 219.—PENNYROYAL.

H. PULEGIOIDES.—Leaves annual, sub-petiolate, oblong, acute, sub-serrate, a little rough; flowers axillary, verticillate by six on short pedicels, with two small bracteoles.

Description.—The root of the pennyroyal is annual, small, yellowish, and branched; leaves opposite, small, oblong, lanceolate, or sub-oval; flowers all along the branches, in axillary whorls of six; calyx pubescent; corolla very small; stamina and style filiform; anthers oblong; stigma lateral, acute; fruit four oblong seeds. It is found growing throughout the United States and Canada, in dry woods, plains, &c.

Properties.—The smell is strong, and hardly aromatic, but pleasant; the taste pungent and warm. The medical principle resides in an essential oil, possessing the same smell and taste as the herb. It is carminative, stimulant, diaphoretic, emmenagogue, &c., and is a popular remedy for suppressed urine and menses; the infusion or tea, taken freely, greatly assisting nature to restore this evacuation, particularly where it has arisen from a sudden check of perspiration. The pennyroyal has also many of the best properties of the peppermint.

Employment.—A strong tea, made of the plant, should be taken warm, freely, and frequently.

GENUS HYSSOPUS.—Calyx 5-parted, divisions nearly equal; corol with the lower lip 3-parted; the middle segment mostly crenate; stamens straight, distant.

NO. 220.—HYSSOP.

H. OFFICINALIS.—Flowers in whorls, racemes pointing one way; middle division of the corol 2-lobed, very entire; leaves linear, lanceolate.

Description.—The stem of this plant rises about a foot in height; ramose; leaves sessile, narrow, acute; flowers blue or pink color, united in the axilla of the superior leaves. The plant grows in the south of France, and is also found in this country.

Properties.—Hyssop has an agreeable and aromatic odor, and a warm, pungent, and slightly bitter taste. It contains a yellow essential oil, some bitter principles, and sulphur. The remedial principles are soluble in water and alcohol. This plant is slightly stimulant, and is possessed of expectorant properties, which make it very beneficial in colds, coughs, and pulmonary catarrhs, and in phthisis and other affections of the lungs. Combined with gum-myrrh, as a gargle for sore mouth, it is very useful. Culpepper recommends that, for this purpose, and as a gargle in quinsy, it be boiled with figs.

Employment.—Infuse a handful of the herb in two quarts of boiling water, and drink according to circumstances.

GENUS LAVANDULA.—Calyx ovate, sub-dentate, supported by a bract; corol reversed; stamens within the tube.

NO. 221.—LAVENDER.

Common Names.—Broad-leaf Lavender, &c.

L. SPICA.—Leaves sessile, lance-linear; margin revolute; spikes terminal, intercepted, naked; flowers blue; shrub branched.

Description.—The stem of this plant is woody, ramose, and whitish; the leaves are lanceolate, pointed, entire, glaucous; flowers bluish, verticillate, sessile, and disposed in terminal spikes. It is a perennial plant, a native of the south of France, but extensively cultivated in our medical gardens, and has been grown in those of England for more than three hundred years. It flowers from May till September.

Properties.—The smell of the lavender is aromatic and pleasant, and its taste bitter and warm. It contains a large proportion of essential oil, of a straw-color, which furnishes 0·25 parts of camphor; water and alcohol take up its active principles. Although this plant possesses very energetic stimulant properties, it is nevertheless very little used now, except as a perfume. It may, however, be administered with advantage in flatulence, fainting, and nervous affections, being carminative, pectoral, nervine, and anti-spasmodic.

Employment.—Of the powder, the dose is from one scruple to half a dram. It may likewise be taken in the form of infusion or tea.' It forms the principal ingredient in the "compound spirits of lavender," which are grateful to the palate and useful in the nervous affections of the fair sex. The essential oil, called "oil of spike," is a valuable stimulant, and the powdered leaves still enter into the composition of some of the cephalic snuffs.

GENUS LEONURUS.—Calyx 5-angled, 5-toothed; corol with the upper lip erect, villose, flat, entire; lower lip 3-parted; middle division undivided; lobes of the anthers parallel, having shining dots.

NO. 222.—MOTHERWORT.

L. CARDIACA.—Leaves 3-lobed, toothed, bases wedge-form; calyx prickly, less than the corol.

Description.—This is an exotic, found growing along the roadsides of Europe, but has now become naturalized in this country. It is a valuable plant, having a hard, square, brownish, strong stalk, rising from two to four feet high, and spreading into many branches; the leaves are broad and long, two at every joint, and notched about the edge. From the middle of the branches to the tops grow the flowers round about them, in sharp-pointed, rough, prickly husks or burs, of a red or purple color. The root sends forth a number of long strings and small fibres, of a dark-yellowish color.

Properties.—Motherwort is an excellent anti-spasmodic, emmenagogue, and tonic, and is also a cordial diaphoretic. It may be given in powder, a tablespoonful at a dose; or the expressed juice, half a tablespoonful; or in infusion. It relieves hysterical symptoms, procures sleep, abates delirium, and allays spasms and risings of the uterus; it is admirably adapted to the cases of those females who suffer from tenderness about the lower bowels and loins. It also brings on the menses. As a warm cordial, it may be used in low fevers, and in chronic weakness, with nervous affections, cramps, and convulsions.

There are certain conditions of some constitutions during a state of disease which strongly indicate the use of tonics, while the nervous irritability and the tendency to the development of fever are so great as to cause a return of febrile excitement from the use of even the mildest tonics or stimulants. In such cases, motherwort affords prompt and permanent relief by allaying the nervous excitement, while it braces up the system, gives tone to the digestive organs, and changes the morbid conditions of the secretions. It acts upon the liver, and is a valuable adjunct to the *Alterative Sirup* or *Hepatic*

Pills. It is particularly useful as a tonic in low forms of fever, accompanied with a morbid excitability of the nerves, and in the treatment of all chronic affections attended by restlessness, wakefulness, disturbed sleep, spinal irritation, and neuralgic pains in the stomach and head. Were the properties of this plant and its value as a remedy universally known, it would be extensively used, and physicians would find it an easy task to curtail and remove many of the diseases which, under any other course of treatment yet adopted, are of the most obstinate and troublesome character. It is valuable in all nervous diseases, especially such as affect those who are laboring under any female derangements.

Employment.—Motherwort is principally used in infusion and decoction, drank freely, or in extract, the latter of which may be made by simply boiling the decoction down to the proper consistency for pills, or (which is better) by expressing the juice from the green herb and drying it down by a slow heat. The decoction may be made by adding two ounces of the dry herb to one quart of water, and boiling down to one pint. The dose of the decoction is from half an ounce to an ounce every two hours through the day; dose of the extract, five grains every two to four hours.

GENUS MARRUBIUM.—Calyx salver-form, rigid, 10-striate; the upper lip of the corol cloven, linear, straight.

NO. 223.—HOREHOUND.

Common Names.—White Horehound, &c.

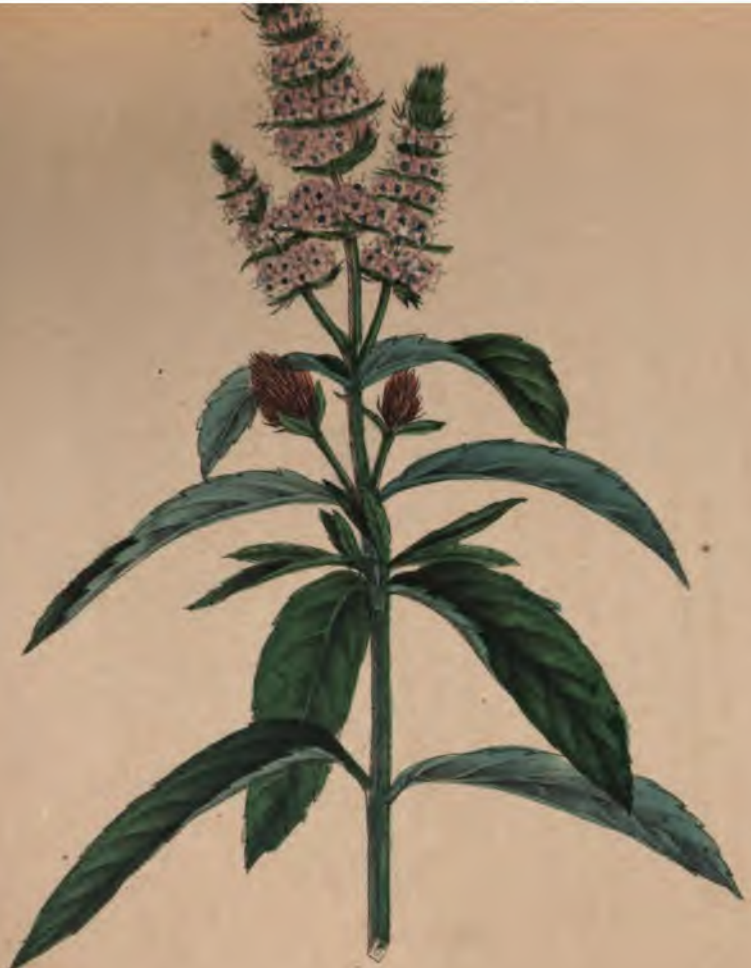
M. VULGARE.—Leaves roundish, ovate, toothed, rugose, veined; calyx 10-toothed, with setaceous, hooked teeth.

Description.—The horehound is a perennial plant, rising about a foot in height; leaves deeply serrated, veined, wrinkled, and hoary, standing in pairs upon long, thick, and broad foot-stalks; the flowers are white; calyx cut into ten segments. This plant is a native of Europe, but flourishes well in this country, and is found growing along fences and roadsides.

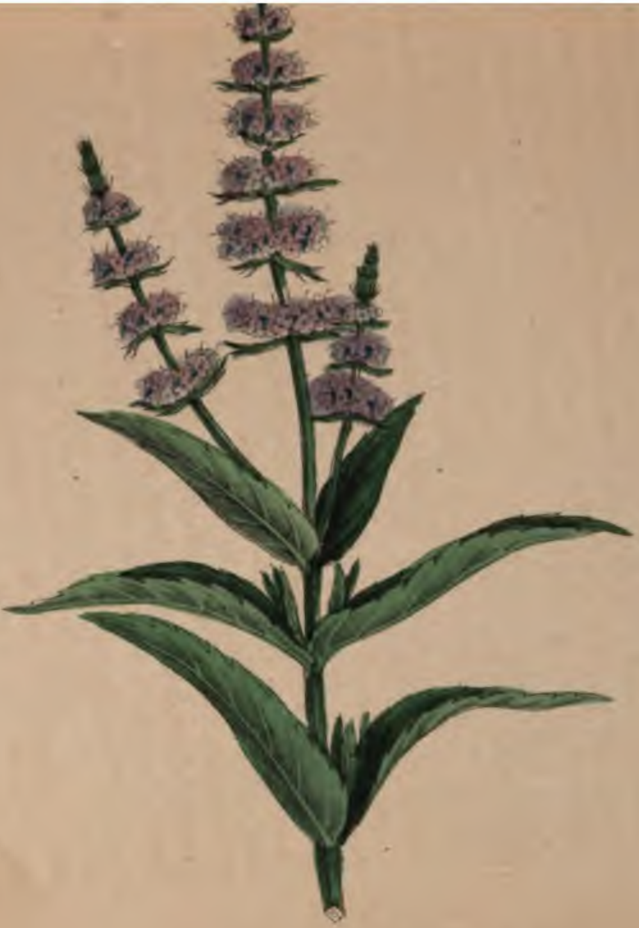
Properties.—Horehound has an aromatic and musk-like odor, and an acrid, warm, bitter, and balsamic taste. It contains a volatile oil, a bitter principle, and some gallic acid. Boiling water and alcohol dissolve its active properties. The plant is a very energetic stimulant, diaphoretic, pectoral, and tonic, and is an excellent remedy in colds, coughs, and all pulmonary affections. It is emmenagogue and anti-spasmodic, and is very beneficial in consumption and pneumonia. Given in very large doses, it sometimes acts as a laxative. It enters into the *Pulmonary Balsam*, which constitutes an exceedingly valuable preparation in all pulmonary diseases.

Employment.—It is most generally given in the form of sirup and infusion. The candied horehound, properly made, is very useful in troublesome coughs.

Incompatibles.—The sesqui-salts of iron, ipecacuanha, and tartar-emetic.



Mentha Viridis.



Mentha Piperita.

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GENUS MELISSA.—Calyx angular, scarose, with the upper lip ascending, bifid.

NO. 224.—LEMON-BALM.

Common Names.—Cure-all, Dropsy-plant, &c.

M. OFFICINALIS.—Racemes axillary, verticillate; pedicels simple.

Description.—This plant rises two feet high; the leaves are egg-shaped, spreading, rough, ribbed, veined, deeply serrated, of a bright-green color, and placed upon long petioles; the flowers are white, ringent, proceeding from the alæ of the wings. It is a perennial plant, a native of Europe, growing wild upon the Alps and Pyrenees, and is now cultivated in our gardens.

Properties.—The green plant has a very agreeable smell, similar to that of the lemon, and a harsh and slightly aromatic taste. It contains a white essential oil, and a small quantity of bitter extractive matter. Water and alcohol dissolve its active principles.

Balm is sudorific, stimulant, diluent, and somewhat anti-spasmodic. It is very useful as a drink in fevers, pleurisies, and other inflammatory affections, and is beneficial in obstructions, suppressions, headache, asthma, hysteria, and nervous derangements; it is also good to remove nausea in children.

Employment.—The warm infusion may be drank freely; it is very grateful.

Incompatibles.—Sulphate of iron, acetate of lead, and nitrate of silver.

GENUS MENTHA.—Calyx 5-cleft; corol nearly equal, 4-parted, the broadest segment notched; stamens erect, distant.

NO. 225.—PEPPERMINT.

M. PIPERITA.—Spikes obtuse, interrupted below; leaves petiolate, sub-ovate, nearly glabrous; stem glabrous.

Description.—The stem of the peppermint is erect, one or two feet high, ramose; leaves oval, dentate on the periphery; the flowers are violet-colored, in short and very close spikes at the top of the branches. This plant is indigenous to Europe, but now grows freely in this country, and is cultivated in gardens for medical use.

Properties.—The odor of the peppermint is agreeable and penetrating; its taste is pungent, slightly bitter, and followed by a sensation of cold in the mouth. It possesses an abundance of yellowish essential oil, containing camphor, a little resin, and extractive. Its active principles are soluble in water and alcohol.

This plant possesses decided stimulant, sudorific, anti-spasmodic, pungent, and anti-emetic properties, which chiefly exist in its essential oil. It is accordingly administered in affections which require the use of stimulating articles. It may be given with advantage in nervous complaints of the stomach, such as flatulence, colics, dyspepsia, spasmodic vomiting, cardialgia, &c. It may likewise be employed with some benefit in amenorrhœa, chlorosis, hysteria, and other nervous diseases. It is very useful as an adjunct to other medicines, particularly cathartics, to facilitate their action, and to conceal their odor or unpleasant taste; and is excellent to allay vomiting, sickness at the stomach, heartburn, flatulent colic, bowel-complaints, cholera morbus, &c. It enters into the *Neutralizing* and *Anti-bilious Physic* of our pharmacopœia.

Employment.—It may be administered in powder, infusion, or the essential oil. Of the essence or powder, from one scruple to half a dram may be given at a dose. The infusion is made by adding an ounce of the herb to a quart of boiling water, and should be taken freely. The fresh herb, bruised and applied to the pit of the stomach, will cure nausea, and often the bowel-complaints of children.

NO. 226.—SPEARMINT.

M. VIRIDIS.—Spikes interrupted; leaves sessile, lanceolate, acute, naked; bracts setaceous, and with the teeth of the calyx hairy; leaves glabrous; flowers purple.
Synonym.—*Mentha tenius.*

Description.—This plant rises two or three feet in height; the stem is quadrangular, straight, with small branches; leaves opposite, on short peduncles, oval, serrated; flowers on a short terminal spike. It is a perennial plant, found growing along brooks and rivulets, and has a warm, stimulating, aromatic taste, which is owing to the essential oil it contains. This oil is of a light straw-color, and of the density 0·914.

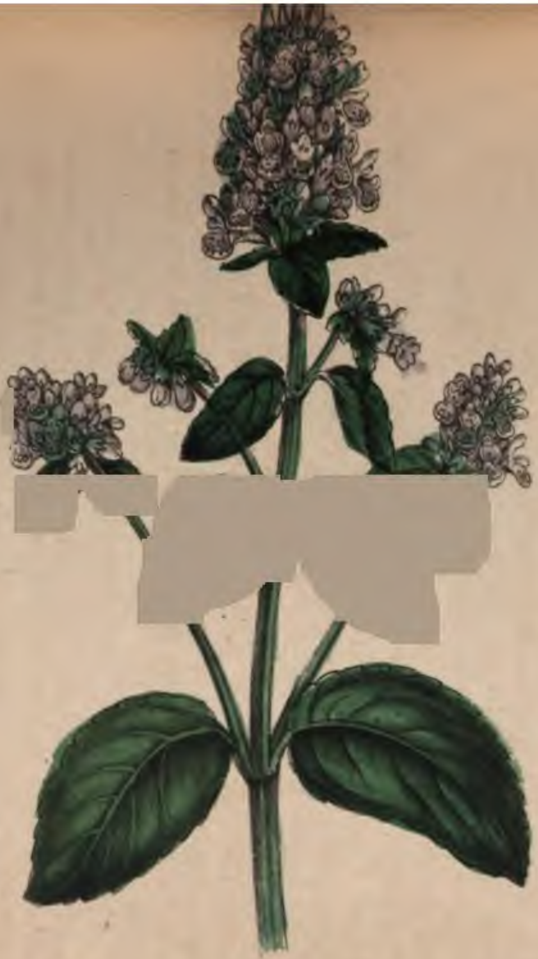
Properties.—The spearmint is febrifuge, diuretic, anti-spasmodic, and anti-emetic. This plant resembles in its action the peppermint, and is excellent to allay nausea, vomiting, and sickness at the stomach. It is also a valuable remedy in gravel, suppression of urine, &c. The oil is likewise beneficial in pains and rheumatic affections, combined with the oils of cedar and *Origanum.*

Employment.—The infusion is made by bruising a handful of the herb in a quart of boiling water. It constitutes the principal article in the *Spirits of Mint,* which is prepared by bruising the green plant, and adding sufficient fourth-proof Holland gin to make a saturated tincture, which is very efficacious in suppression of urine, gravelly affections, &c. I discovered this many years ago, more by accident than design. The dose of this preparation is a wineglassful, drank as often as the stomach will bear. Cotton, saturated with the above liquid or tincture, and applied to the piles, affords immediate relief.

GENUS NEPETA. Calyx dry, striate; corol with a longish tube; under lip with the middle segment of the corol crenate, the orifice with a reflected margin; stamina approximate.

NO. 227.—CATNEP.

Common Names.—Catmint, Catwort, &c.
N. CATARIA.—Flowers in whorled spikes; whorls slightly pedicelled; leaves petioled, cordate, teeth serrate; plant hoary, pubescent.



Nepeta Cataria.

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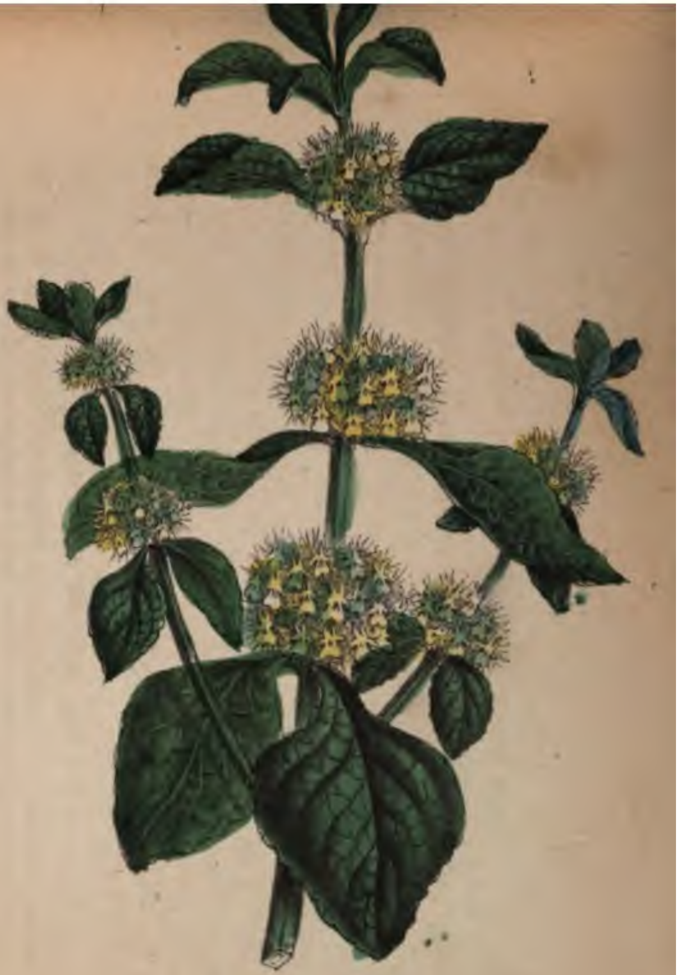

Marrubium Vulgare.

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Description.—This plant, so much celebrated as the favorite of the domestic cat, rises from two to three feet in height; the stalk is quadrilateral and ramose; the leaves roundish, dentate, and pubescent; the flowers are in a whorled spike, and whitish. It is a perennial, indigenous to this country, and found growing along the sides of roads and old buildings throughout the United States.

Properties.—The catnep is diaphoretic, carminative, diluent, and refrigerant. It is useful in all kinds of fevers, producing perspiration without increasing the heat of the body. Although this plant is very simple, and by some despised, yet it is a valuable article. In colds, a tea made of it is much used in domestic practice, and not without effect, as it most generally induces a profuse perspiration, which throws off the cold, and restores the patient to his ordinary health. It is very efficacious in hysterics and nervous affections, as well as in all diseases of the womb, except inflammation. In dyspepsia, accompanied with debility and much wind in the stomach, it frequently removes pain and gives tone to the system. Small doses cure the windy colic of children. It is said that the fresh leaves chewed will relieve the toothache. The tea is a common domestic remedy to relieve pain and flatulency in infants.

Employment.—It is given in infusion, made by adding a small quantity of the herb to a quart of boiling water. Externally, it is used as a poultice in painful swellings. It is also excellent in fomentations.

GENUS OCYMUM.—Calyx with the upper lip orbiculate, the lower one 4-cleft; corol resupinate, one lip 4-cleft, the other undivided; outer filaments sending out a process from the base.

NO. 228.—SWEET BASIL.

Common Names.—Basil, &c.

O. BASILICUM.—Leaves ovate, glabrous; calyx ciliate.

Description.—This is an annual exotic, a native of India and Persia, but is cultivated as a sweet herb in Europe and this country. The whole plant has a strong, peculiar, agreeable, aromatic odor (which is much strengthened by drying), and a cooling, saline taste.

Properties and Uses.—The sweet basil is aromatic, nervine, stimulant, &c. The herb is employed in France as a condiment. It may be used in infusion, its properties resembling those of the aromatic plants in general, and fulfilling the indications for which they are commonly prescribed. It arrests vomiting, and allays nausea. The infusion of the seed is a remedy in gonorrhœa and nephritic affections.

According to Culpepper, this plant will extract the poison of serpents, or of wasps and hornets, when applied to the wounded part. He also says it will expel both the fœtus and the after-birth.

GENUS ORIGANUM.—Calyxes collected into a quadrangular cone, with intervening bracts; the upper lip of the corol erect, flat, emarginate; under lip 3-parted, divisions nearly equal.

NO. 229.—SWEET MARJORAM.

Common Names.—Sweet-knotted Marjoram, &c.

O. MARJORANA.—Spikes roundish, ternate, compact, peduncled; leaves petioled, oval, obtuse, smoothish.

Description.—This plant, which has long been admitted into the pharmacopœias, is a native of Portugal and Syria. It is supposed to be the *Amaracus* of the ancients, and is said to have been introduced into England about the year 1573.

The stems are numerous, woody, branching, and rising more than a foot in height; the leaves are ovate and obtuse, entire, petiolate, and downy. The flowers are usually white, with numerous bracts, and are collected into small roundish heads; from which last circumstance it is called knotted marjoram. The calyx is tubular, with five acute teeth. The corolla is funnel-shaped, with the upper lip erect and roundish, and the under divided into three acute teeth. The flowers appear in July.

Properties and Uses.—The leaves and tops have an agreeable aromatic odor, and a moderately warm, bitterish taste. In distillation with water, they yield a quantity of essential oil, amounting, according to Baumé, to sixteen ounces from one hundred and fifty pounds of the plant. This, on being long kept, assumes a solid form. Sweet marjoram is aromatic and tonic, its virtues residing in its essential oil. It is seldom used medicinally, but is a good deal employed for culinary purposes to give relish to soups, omelets, stuffings, &c. The powder of the dried herb is sternutatory, and like the common marjoram enters as an ingredient into the composition of some cephalic snuffs.

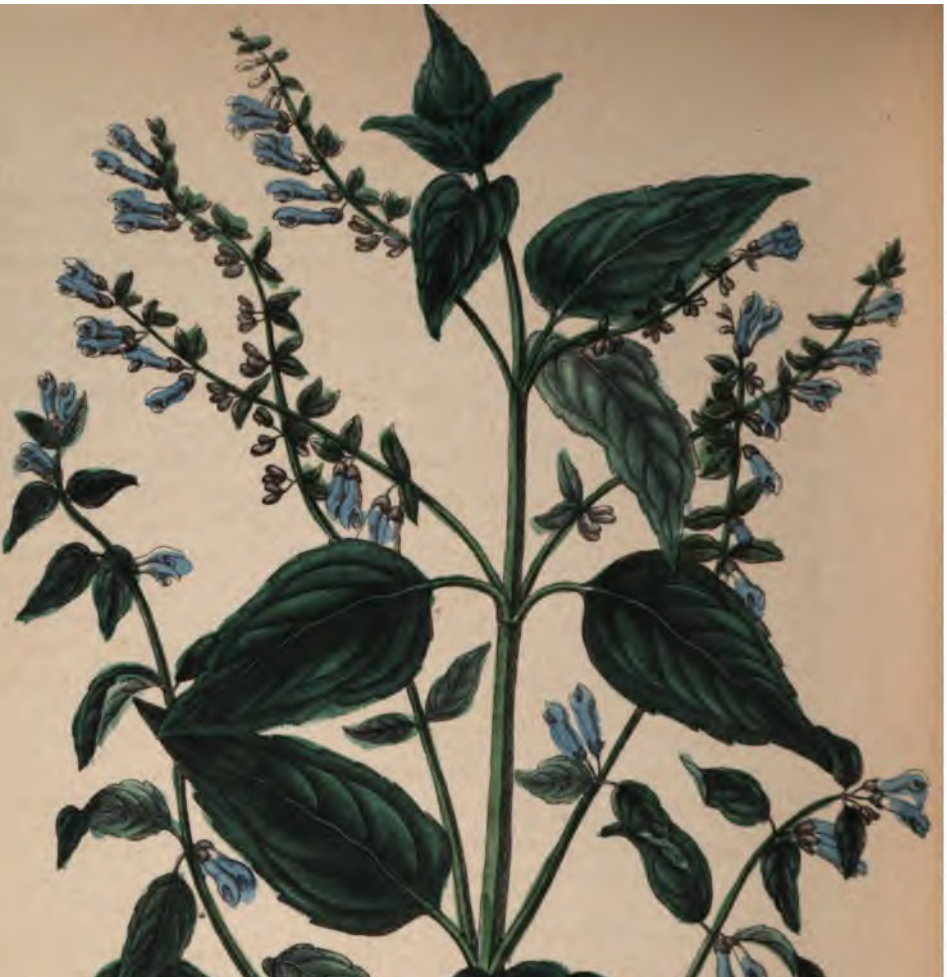
NO. 230.—MOUNTAIN-MINT.

Common Names.—Wild Marjoram, &c.

O. VULGARE.—Spikes round, panicled, heaped; bracts ovate, longer than the calyx.

Description.—The wild marjoram is a perennial plant, a native of Europe, growing on dry, gravelly hills. In England it chiefly occurs in thickets, on chalk or limestone, flowering in July and August. It is naturalized in this country, and cultivated as a garden herb.

From a brownish, creeping, fibrous root-stake rise several erect, leafy, angular, purplish stems, about a foot high, clothed with short recurved hairs, and branched and panicled at the summit. The leaves are deflexed, ovate, pointed, dark green, entire, or slightly serrated, minutely fringed, petioled, and grow in pairs at the joints. The flowers are in dense, convex, terminal panicles, of a light purple or rose color, and furnished with numerous ovate, sessile bracts, one under each flower, rather longer than the calyx. The calyx is tubular, 5-toothed; like the leaves covered with resinous dots, and



Scutellaria Lateriflora.

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fringed with dense, very conspicuous white hairs. The corolla is funnel-shaped, with the upper lip erect, nearly flat, bifid, and obtuse; the under in three deep, spreading, nearly equal lobes. The filaments are four, thread-shaped, two longer than the corolla, supporting ovate, two-lobed anthers. The style, which is filiform, with a bifid, reflexed stigma, rises from a four-lobed germen.

Properties and Uses.—This plant resembles wild thyme, both in its sensible qualities and medicinal properties, and may be used for the same purposes. Its effects are those of a mild stimulant and carminative, and was formerly held in high estimation as an emmenagogue, but it is now fallen into disuse. The essential oil is sometimes applied to carious teeth on a dossil of lint or cotton, to relieve the pain of toothache. The leaves when dried are used instead of tea, and are said to be exceedingly grateful; and the powder enters as an ingredient into the composition of some cephalic snuffs. For internal use, half an ounce of the leaves are infused in a pint of boiling water, and drank at intervals, or one scruple of the powder may be taken twice or three times a day.

GENUS PRUNELLA.—Calyx with the upper lip dilated; filaments 2-forked, with an anther on one of the points; stigma 2-cleft.

NO. 231.—HEAL-ALL.

Common Names.—Self-heal, &c.

P. VULGARIS; var. *pennsylvanica.*—Leaves petioled, oblong-ovate, toothed at the base; lips of the calyx unequal; upper one truncate, awned; stem ascending.

Description.—This is a small perennial, labiate plant, growing from six to twelve inches in height, and is common to both Europe and this country, being most generally found by the waysides and in neglected fields.

Properties.—This plant is inodorous, has an austere, bitterish taste, and possesses stimulant and astringent properties. It has latterly been neglected, but whether deservedly so I know not.

Employment.—The herb in flower, prepared by infusion and decoction, is used in hemorrhages and diarrhœa, and as a gargle in sore throat.

GENUS SCUTELLARIA.—Calyx bilabiate, persistent, upper lip with a lid covering the seeds; corolla bilabiate; upper lip concave, entire; lower trilobed; stamens cliclynamous; seeds 4, in the closed calyx.

NO. 232.—SCULLCAP.

Common Names.—Mad-weed, Hoodwort, Blue Pimpernel, &c.

S. LATERIFLORA.—Stem branched and smooth; leaves petiolate and thin, ovate-dentate, the lower ones sub-cordate; racemes axillary, leafy.

Description.—The root of the scullcap is perennial, fibrous, and yellow, stem erect, from one to three feet high, branched, diffuse, smooth, quadrangular: branches opposite; leaves on long petioles, thin, nearly membranous, opposite, sub-cordate on the stem, ovate on the branches, dentate-acute, somewhat rugose. The flowers are of a pale-blue color, on long axillary racemes, bracteated, ovate, acute, entire, sub-sessile; each flower axillary to one bract, and pedunculated; bracts distichal; flower unilateral; calyx suctellate; seed oval, verrucose.

This plant is found all over the United States, growing in meadows, woods, near water, &c., blossoming in the summer. It has very little smell, and the taste is a passive bitterish. The juice of the plant is slightly tinged with red.

Properties.—Tonic, nervine, astringent, and anti-spasmodic. This plant is remarkably efficacious in St. Vitus' dance *(chorea)*; with the infusion I have cured a great number of cases of this disease. It has also become quite famous as a cure for hydrophobia. The medical properties applicable to this complaint were first discovered by Dr. Vanderveer, of New Jersey, about the year 1772. He employed it with the utmost success; and up to 1815, at which period he died, he is said to have preserved four hundred persons and one thousand cattle from becoming affected with the disease, after they were bitten by rabid animals. It is likewise stated that his son relieved or cured forty persons in three years, in the states of New York and New Jersey, by the use of this article. Although its anti-hydrophobic virtues have been doubted, the weight of evidence among respectable authors is much in its favor. It is very useful in convulsions, tetanus, tremors, and all nervous affections, acting as a nervine tonic. Combined with the sweet bugle, it is of value in intermittents and in inflammation of the stomach.

The dried plant gives one fourth part of soluble water, and a very active extract. The substances found in it by Cadet were—1. A yellow-green oil, fixed, and soluble in ether. 2. A bitter principle, soluble in water, alcohol, and ether. 3. Chlorophylle. 4. A peculiar volatile matter, smelling and tasting like the principle of anti-scorbutic plants. 5. An essential oil. 6. Albumen. 7. A sweet, mucous substance. 8. A peculiar astringent principle. 9. Lignine. When burnt, the ashes afford the chlorure of soda, and even other salts. Alcohol and water take up its efficient properties.

Employment.—It may be used in powder, decoction, infusion, or extract. Dose of the extract, from 5 to 10 grains;. of the powder, about 20 to 25 grains. The infusion is to be drank freely.

GENUS THYMUS.—Calyx sub-campanulate, throat closed with hairs; corolla, upper lip flat, emarginate; lower lip longer.

NO. 233.—THYME.

Common Names.—Mother of Thyme, Garden-Thyme, &c.

T. VULGARIS.—Leaves numerous, erect, linear, ovate, revolute; flowers small, in a whorled spike.

Description.—The leaves of thyme are numerous, erect, linear, ovate, and revolute; and the flowers are small, in a whorled spike. It is a native of Europe, but is cultivated in gardens in this country. The *Thymus serpillus* (English thyme), or wild thyme of Europe, has similar properties to this. Both have a peculiar, grateful odor, which is dependent on its volatile oil. The herbaceous portion is cut when in bloom, and dried for use, as a domestic remedy. It is a well-known plant, and grown principally for a condiment.

Properties and Uses.—Thyme is mildly stimulant and aromatic, but is seldom employed in general practice. In domestic practice it is used in the form of a warm infusion to promote perspiration, relieve headache, &c. By some it is employed as tea at table.

GENUS VERBENA.—Calyx with one of the segments truncate; corol funnel-form, with a curved tube; border 5-cleft, nearly equal; seeds 2 or 4, with an extra vanishing tegument; sometimes two stamens are barren.

NO. 234.—VERVAIN.

Common Names.—Blue Vervain, Simpler's Joy, &c.

V. HASTATA.—Stem erect, tall; leaves lanceolate, acuminate, gash-serrate; lower ones gash-hastate; spikes linear, panicled, sub-imbricate.

Description.—The blue vervain is found by roadsides, and in dry, grassy fields. It has a woody, fibrous root, and an erect, square, branching, and somewhat hairy stem, rising three or four feet high. The leaves are narrow, rough, sharp at the point, and edged with acute teeth; the lower ones are generally lobed at the base. The flowers are blue or purplish, and thickly crowded upon erect, slender spikes; they bloom from July to September, a few of them only expanding at a time.

Properties.—The blue vervain is bitter, somewhat astringent, and very nauseous. One or two teacupfuls of the strong decoction will operate as an emetic, and is used for that purpose by people in the country. It also produces perspiration. In severe colds, and the early stages of fever, where the stomach is much disordered, it may always be employed with advantage. It is likewise much employed as a remedy in fever and ague. The decoction is given as an emetic, just as the paroxysm is coming on, and in many instances a single dose has effected a permanent cure. After the stomach is thoroughly cleansed, it does not often produce nausea. A strong tea of this plant, sweetened with molasses, and administered in the dose of a tablespoonful every half-hour or hour, is an excellent remedy in cough. It is also regarded as of service in incipient phthisis, gravel, and scrofulous affections.

Employment.—It may be employed in powder, infusion, or decoction. The dose of the powder is from one to two scruples, and of the infusion about a wineglassful.

Order 33. Angiospermia.—Seeds contained in a pericarp.

GENUS ANTIRRHINUM.—Calyx 5-leaved, or deeply 5-parted, the two lower divisions serrate; corol personate, or ringent, spurred, or with a prominent base; the throat closed with a prominent palate; capsule ovate, 2-valved, dehiscent at the apex, with reflexed teeth.

NO. 235.—TOAD-FLAX.

Common Names.—Snap-dragon, &c.

A. LINARIA.—Stem erect, glabrous; leaves scattered, lanceolate-linear, crowded together; spikes terminal, dense-flowered; calyx glabrous, shorter than the spur.

Description.—This is a perennial herbaceous plant, from one to two feet high, with numerous narrow, linear leaves, and a terminal crowded spike of large yellow flowers. It is a native of Europe, but has been introduced into this country, where it is now naturalized, and grows in great abundance along the roadsides, throughout the middle states. It is readily distinguishable by the shape of its leaf, and by its conspicuous yellow flowers, which appear in succession from June to October.

Properties.—The herb is the part used. It should be collected when in flower, dried quickly, and kept excluded from the air. When fresh, it has a peculiar heavy, rather disagreeable odor, which is in a great measure dissipated by drying. The taste is herbaceous, weakly saline, bitter, and slightly acrid. This plant is said to be diuretic and cathartic, and has been used in dropsy, jaundice, and various cutaneous eruptions.

Employment.—It is most conveniently employed in the state of infusion. The fresh plant is sometimes applied externally, in the shape of poultice or fomentation, to hemorrhoidal tumors, and an ointment made from the flowers has been employed for the same purpose, and also as a local application in diseases of the skin. An infusion of the flowers is efficacious in cutaneous disorders, and, combined with those of the *Verbascum* as a tea, cured an exanthematous disorder which had resisted every other remedy during three years.

GENUS CHELONE.—Calyx 5-cleft or 5-leaved, 3-bracted; corol ringent, inflated; the upper lip emarginate-obtuse, under lip slightly 3-cleft; the rudiment of a smooth filament between, and shorter than the two tallest stamens; anthers woolly; capsule 2-celled, 2-valved; seeds with membranaceous margins.

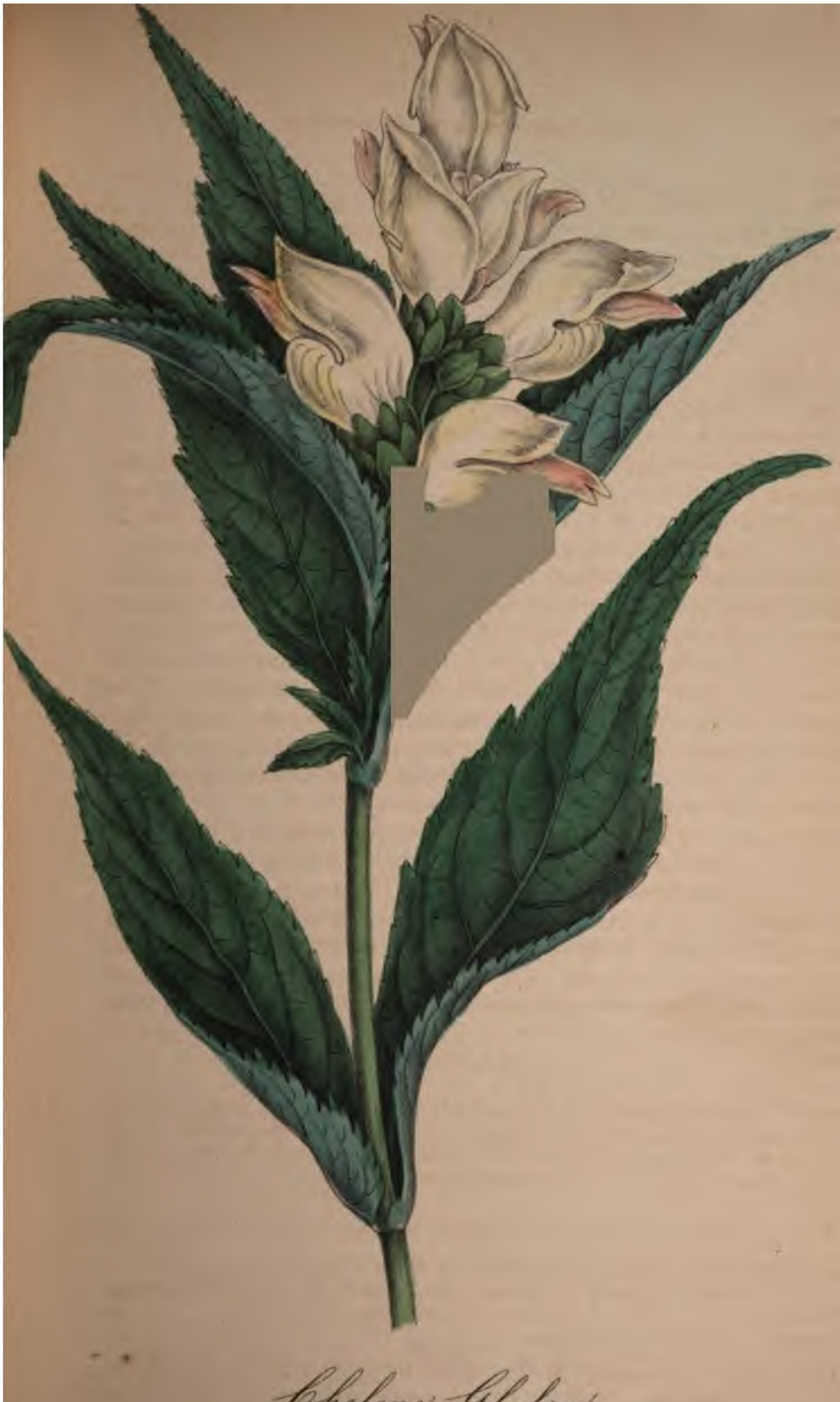
NO. 236.—BALMONY.

Common Names.—Bitter-herb, Snake-head, Fish-mouth, Turtle-bloom, &c.

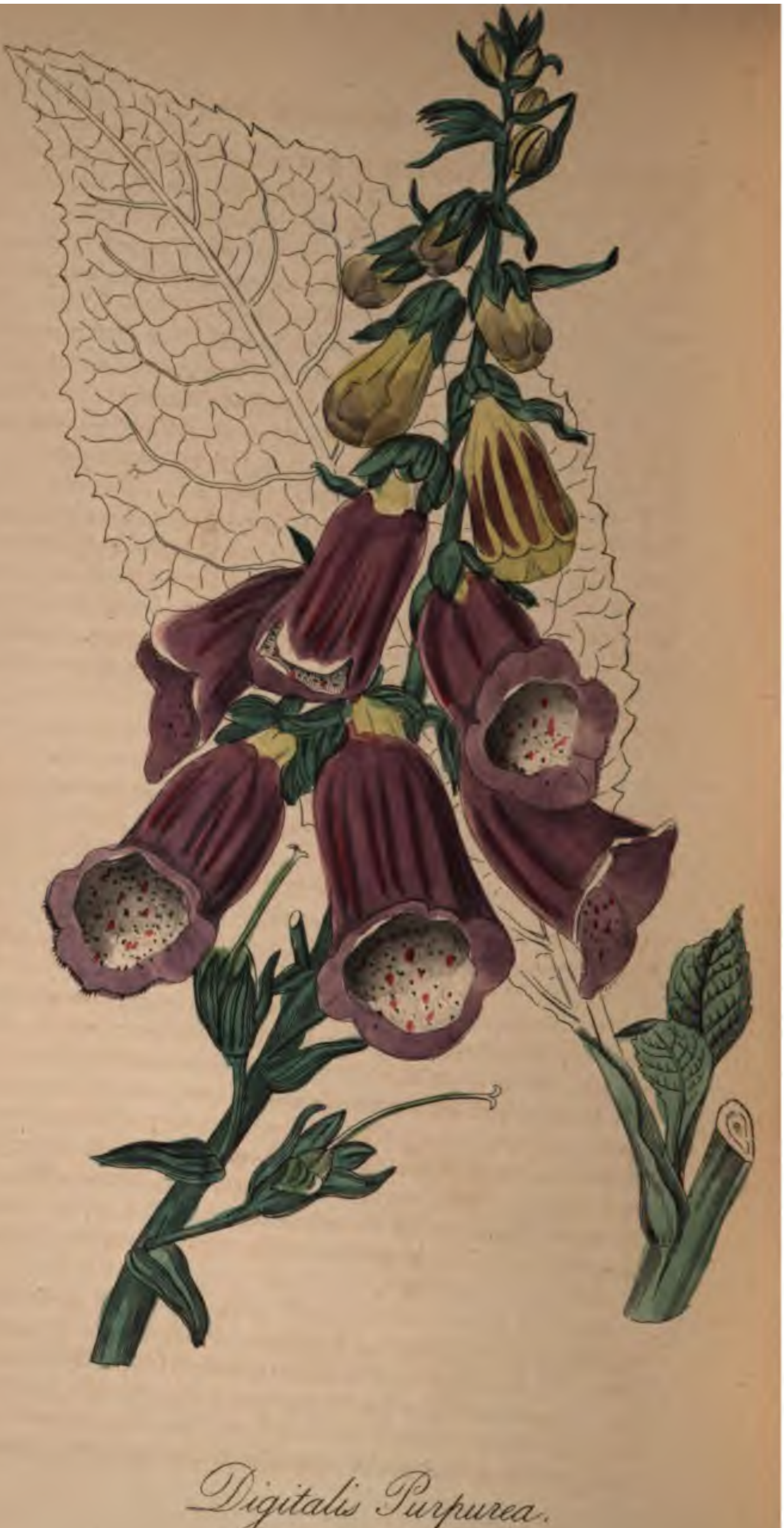
C. GLABRA.—Leaves opposite, lance-oblong, acuminate, serrate; spikes terminal, dense-flowered.

Synonym.—*Chelone obliqua*, Wildenow.

Description.—This plant is found near the borders of streams, and in thickets and meadows, where the ground is wet. It has a perennial, fibrous



Chelone Glabra.



Digitalis Purpurea.

root, which sends up a number of erect, smooth, bluntly four-cornered stems, from three to five feet high, and occasionally branched near the top. The leaves are opposite, tapering, five or six inches long, sharply pointed, and edged with acute teeth. The flowers are white, tinged in some instances with a delicate shade of red. They are disposed in a cluster, and do not bloom until late in the autumn. They are remarkable for their resemblance to the head of a snake, and hence the familiar name of snake-head. The herb should be collected in clear, dry weather, and as soon as it is in bloom, as the leaves frequently become mildewed after that time. It should be dried in the sun, or in a warm chamber or loft, and carefully guarded from a moist or damp atmosphere, or it will acquire a dark or black color.

Properties.—This herb is anti-bilious, tonic, detergent, stimulant, &c. It is exceedingly bitter, and has been long known in New England as a laxative. It is employed in costiveness, dyspepsia, loss of appetite, and general languor or debility. Given to children afflicted with worms, it will usually afford relief. It is a valuable medicine in disorders of the liver; and in jaundice, it tends to remove the yellow tinge from the skin and eyes.

Employment.—The dose of the powder is from five to ten grains. weak infusion may be drank freely.

GENUS DIGITALIS.—Calyx 5-parted; corol campanulate, ventricose, 5-cleft; capsule ovate, 2-celled, many-seeded; stigma declined.

NO. 237.—FOXGLOVE.

Common Names.—Digitalis, Purple Foxglove, Fairy's Glove, &c.

D. PURPUREA.—Divisions of the calyx ovate, acute; corol obtuse, with the upper lip very entire; leaves lance-ovate, pubescent.

Description.—The stem of the foxglove is herbaceous, simple, straight, and hairy, from two to three feet high; the radical leaves are very large, oval, whitish, and hairy on both sides; the flowers are of a deep purple, hanging in a terminal and unilateral spike; calyx persistent, with five deep divisions; corolla irregular, campanulate, spotted internally with black dots; the fruit is an ovoid, acuminate, and bivalve capsule. The plant seldom flowers before July, and the seeds are ripe in August. It grows on dry, sandy ground, for the most part in high as well as low situations, and is a biennial, indigenous to Europe, but flourishes well in America, and is extensively cultivated in our botanic gardens.

Fuchsius, in his "Hist. Stirp.," 1542, appears to be the first author who noticed and described the foxglove. From him it received its name of *Digitalis*, in allusion to the German designation of *Fingerhut*, which signifies a *finger-stall*, from the blossoms resembling the finger of a glove. From that time we occasionally perceive it noticed, but its properties were far from being tested or understood until Dr. Withering, of the General Hospital at

Birmingham (England), submitted it to a series of well-conducted experiments in 1775 to 1785. In July of the latter year he published an essay on the subject, in which are detailed nearly two hundred cases of treatment of diseases by the exhibition of the foxglove. This brought the herb into general notice, and from that period it has been a regular article of the materia medica.

Properties.—The leaves of this plant have a slightly virose smell, and an acrid and unpleasant taste. According to the analysis of MM. Destouches and Bidault de Villiers, digitalis contains an aqueous, brown extract, an alcoholic extract, an oily green matter, salts, oxyde of iron, &c. M. Leroyer, of Geneva (Switzerland), discovered in it a peculiar substance, which he considered as the active principle of the plant, and called it DIGITALIN; but, according to M. Dulong, this substance is not of an alkaline nature, but is simply a compound of several other substances, all soluble in ether.

M. Labelonge, having made numerous experiments on digitalis, is of opinion that the medicinal principle of this plant has not yet been obtained in a separate state; that water takes up only a few of the principles, while alcohol takes up only certain other ones. Hence digitalis should be treated with water and alcohol together, or with alcohol at twenty-two degrees, in order to produce a hydro-alcoholic extract, containing the volatile oil, resins, salts, bitter extractive principles, &c., of the plant.

Foxglove is sedative and diuretic, diminishing the activity of the pulse, and the general irritability of the system, and increasing the action of the absorbents and the discharge of urine. In dropsy of the chest *(hydrothorax)* this is a very useful article, as also in pleurisy, inflammation of the lungs, dropsy, and in all inflammatory affections.

Dr. Newmann, of Berlin, states that digitalis is useless in tubercles, or where the lungs are in a state of ulceration. But it almost always cures chronic catarrh (which results from irritation of the mucous membrane of the bronchia), and chronic bronchitis, or mucous consumption. It will be of no service, however, if it does not diminish the activity of the pulse after being used for a few days. The leaves should be green, although dry, and without any appearance of brown spots.

Dr. Cless, of Wurtemberg, states that he has found *Digitalis purpurea* to be specific in the treatment of delirium tremens. Of thirteen cases of this disease, in which he administered the remedy, all but two recovered; these two had a relapse. The digitalis was given in strong infusion, in doses of a spoonful every two hours. After symptoms of narcotism have made their appearance, recovery ensues.

Employment.—Of the powdered leaves, the dose is from one to three grains, gradually increasing the amount. For the infusion, add one dram of the herb to half a pint of boiling water, and strain. This is by far the best mode of use. It lowers the pulse much more effectually than bleeding, and without producing the dangerous debility which follows that operation.

Incompatibles.—Sulphate and tincture of the muriate of iron, the preparations of cinchona-bark, and the acetates of lead.

GENUS EPIPHEGUS.—Polygamous. Calyx abbreviated, 5-toothed; corol of the barren flowers ringent, compressed, 4-cleft, lower lip flat; of the fertile flowers minute, 4-toothed, caducous; capsule truncate, oblique, 1-celled, imperfectly 2-valved, opening on one side.

NO. 238.—BEECH-DROPS.

Common Names.—Cancer-root, &c.

E. VIRGINIANUS.—Stem very branching; flowers alternate, distant; calyx short, cup-form, shorter than the capsule.

Synonym.—*Epiphegus americanus*, Nuttall.

Description.—The whole plant is of yellowish-white or brown color, and has a naked appearance. It is a parasite, and a very singular plant, chiefly found growing upon the roots of the beech-tree. The root is bulbous, yellowish, covered at the bottom or lower end with a mat of short, crooked fibres. The stem is from eight to fifteen inches high, much branched, and beset with scattered, short scales, instead of leaves, of which the plant is quite destitute. The flowers are remote, but numerous, situated just above the scales, all along the branches. The plant is usually of a pale, sickly color, intermixed with reddish or dark purple, white, and yellow stripes. It must be gathered before the frost touches it. The *Orobanche uniflora*, also called cancer-root, is almost identical in properties with this plant.

Properties.—The beech-drops are astringent, bitterish, and nauseous. They are useful as a remedy for sore mouth and dysentery, and no doubt might be advantageously employed in other cases needing astringent medicines; and are said to have been of great service applied to obstinate ulcers. They are also supposed to have been used in cancerous affections, and even to have performed cures of that dreadful scourge of the human race. They are highly spoken of, combined with cranesbill and cherry-bark, as a remedy in bowel-hemorrhages; and this combination makes an excellent gargle for ulcers of the mouth, aphthæ, &c.

Employment.—For ulcers and cancerous affections, the beech-drops may be pulverized, both roots and tops, and the powder sprinkled on the ulcer, after the use of caustics, or a tea may be made and used as a wash. The internal employment at the same time might also be advantageous.

GENUS EUPHRASIA.—Calyx cylindric; corol 2-lipped; the upper lip 2-cleft; lower lip 3-lobed, with the divisions 2-cleft; lower anthers lobed, spinose.

NO. 239.—EYE-BRIGHT.

E. OFFICINALIS.—Leaves ovate, obtusely-toothed; lower divisions of the lip emarginate.

Description.—This small annual is very common to both Europe and America, flowering in June, and producing a white blossom. It grows in sterile pastures.

Properties and Uses.—This plant has no odor, but a bitterish, astringent taste, and has been employed in various disorders, especially in affections of the eyes, to improve the vision; for which, in some countries, particularly in Iceland, it is esteemed efficacious, and continues to be a popular remedy. In the United States, however, not much use has as yet been made of it. Eyes weakened by long-continued exertion, and those that are dim and watery, as in a senile state, are the cases in which it would seem to promise the most advantage.

GENUS GERARDIA.—Calyx 5-cleft or 5-toothed; corol sub-campanulate, unequally 5-lobed; segments mostly rounded; capsule 2-celled, dehiscent at the top.

NO. 240.—FEVER-WEED.

Common Names.—Lousewort-Foxglove, &c.

G. PEDICULARIA.—Pubescent, brachiate-panicled; leaves oblong, doubly gash-serrate and pinnatifid; flowers axillary, opposite, pedicelled; divisions of the calyx leafy, gash-toothed.

Description.—This is a biennial plant, about two feet in height, and grows only on high, barren hills, and pine or black-jack ridges. It is much branched, resembling large bunches of lobelia, but more branched. The leaves are small, with deep-toothed or craggy edges. The stalk and leaves are strictly like the leaves of tobacco. The blossoms are yellow, and about the size of the pink.

Properties.—As the common name indicates, it is a popular domestic remedy in fevers of all kinds, and produces a fine flow of perspiration in a very short time, which will soon reduce the symptoms in even the worst stages. It is a valuable article, and deserves attention.

Employment.—First evacuate the bowels, and then administer the infusion freely.

GENUS SCHROPHULARIA.—Calyx 5-cleft; corol sub-globose, resupinate; lips short, middle division of the lower lip reflexed; capsule 2-celled.

NO. 241.—SCROFULA-PLANT.

Common Names.—Figwort, Rose-noble, &c.

S. MARYLANDICA.—Leaves cordate, serrate, acute, roundish at the base; petioles ciliate below; fascicles of the panicle lax, few-flowered.

Synonyms.—*Schrophularia nodosa*, Wildenow; *S. nodosa*, var. *americana*, Michaux.

Description.—This plant is a native of Europe, and grows abundantly in almost every part of that continent and of the United States. It is known by various names in different sections, as figwort, rose-noble, heal-all, &c. The root is perennial; the stem herbaceous, annual, quadrangular, frequently very branching, and rises to the height of from three to seven feet; the leaves are opposite, heart-shaped, acute, and serrated; the flowers are small, and of a dull purplish-green or brown color. It blossoms in July and August. The whole plant has a rank, fetid odor, and a bitter and somewhat acrid taste.

Properties.—The leaves are the part principally used, though the root is employed by some, and is often substituted for the leaves when the latter can not be readily procured. With regard to its medical properties, Rafinesque states that it is vulnerary, resolutive, and anti-scrofulous in decoction, poultice, and steam-bath. It is much used in New Jersey, New York, and New England, and is deemed good for all kinds of sores in men and animals. As an internal remedy, it is undoubtedly anodyne, diuretic, deobstruent, emetic, and cathartic. Generally the *Schrophularinæ* are suspected plants, on account of the narcotic properties of some of them; but in the *Scrophularia marylandica*, this property seems to be so much diminished, that the stomach will not retain a sufficient quantity of it to produce any decidedly narcotic effects. The bruised leaves are highly esteemed as an application to painful tumors, ulcers, piles, cutaneous eruptions, swelled breasts, wounds, &c. They ease pain, allay inflammation, and cause a resolution. Where suppuration must inevitably take place, they bring it to a successful termination without pain.

Dr. A. M. Jones, of Bucyrus, Ohio, used the scrofula-plant in a case of chronic hepatitis complicated with an obstinate chill and fever, amenorrhœa, and a part of the time dysmenorrhœa, and thus remarks: "I made use of our common medicines for a length of time, and when one complaint gave way the others would grow worse, till at last my patient said that she would rather die without medicine than with it, and stopped taking any. I told her that I would find the *Schrophularia* as long as she would take it. She consented to use it. I applied a strengthening plaster over the region of the liver, and directed her to make a decoction of one ounce of the root, and drink every day, and watched the effect for three days. I found, by that time, that it had no active narcotic properties. It caused sickness at the stomach, and spitting. I directed her to continue drinking a strong decoction of it (as much as her stomach would bear) for eight weeks. At the expiration of this time, she said she was well in every respect: she remains so yet. I have used the *Schrophularia* as an emmenagogue in a number of cases, in combination with other articles. I believe it is a valuable article, and wish others to try it. I shall continue to use it, and will report hereafter." In Europe, the leaves are applied in the form of ointment or fomentation to piles, painful tumors, ulcers, and cutaneous eruptions.

Employment.—The green leaves may be used when they can be obtained; or the leaves and roots may be dried and preserved, and when wanted may be prepared for use by moistening them with warm water, and bruising them. Probably an ointment, made by simmering the leaves in lard until they become crisp, would answer the same purpose.

GENUS SESAMUM.—Calyx 5-parted; corol bell-form, 5-cleft, with the lower lobe longest; stamens with the rudiment of a fifth; stigma lanceolate; capsule obtusely 4-angled, 4-celled.

NO. 242.—BENE-BENNI.

Common Names.—Benne, Oily Grain, &c.

S. INDICUM.—Leaves lance-ovate; lower ones 3-lobed; upper ones undivided, serrate.

Description.—This is an annual plant, a native of Malabar and Egypt. It is also cultivated in this country, and will grow vigorously as far north as Pennsylvania. It has a branching stem, four or five feet in height, and bears opposite, petiolate leaves, varying much in shape. The flowers are of a reddish-white color, growing on short peduncles in the axils of the leaves. The fruit is an oblong capsule, containing small, oval, yellowish seeds.

Properties.—The leaves are mucilaginous, and are much employed in cholera-infantum, diarrhœa, dysentery, catarrh, and affections of the urinary passages, with extremely favorable results. The oil expressed from the seeds has a bland sweetish taste, and, like that of the olive, is laxative in large doses, and will keep a long time without becoming rancid.

Employment.—One or two fresh leaves of full size are stirred about in half a pint of cool water, or the dried leaves in hot water. This makes a fine mucilage, which may be drank as required. The leaves also make good emollient cataplasms.

Class XIV. Tetradynamia.—Bearing flowers with six stamens, four long and two short; flowers cruciform.

Order I. Siliculosa.—Length and breadth of the pod nearly equal.

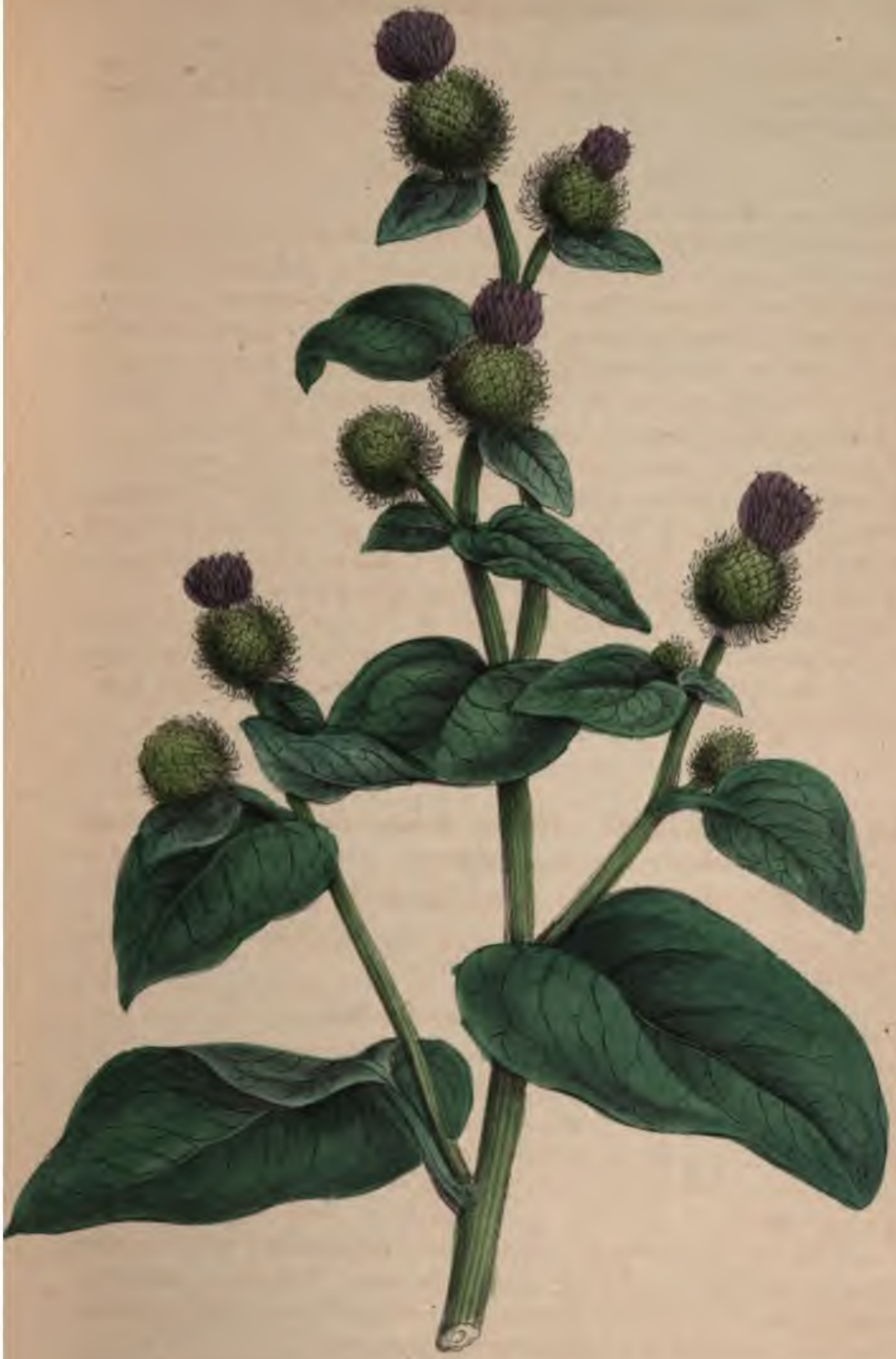
GENUS COCHLEARIA.—Silicle thick, rugose, many-seeded, with gibbous, obtuse valves; partitions nearly parallel to the valves.

NO. 243.—HORSE-RADISH.

C. ARMORACIA.—Radical leaves lanceolate, crenate; cauline leaves gashed.

Description.—The stem of the horse-radish is ramose, two or three feet in height; the leaves proceeding from the root are very large, elliptical, and petiolated; those growing on the stalk are smaller, narrower, and lanceolate. The flowers are white, small, in long spikes at the extremity of the branches; calyx with four concave divisions; petals spreading; fruit small, ovoid pods, crowned by a persistent stigma, and composed of two cells; roots cylindrical, one or two feet long, of the size of the arm. This is a well-known perennial plant, indigenous to France, and cultivated in gardens in almost all European countries and throughout this continent.

Properties.—The plant contains a very acrid volatile principle of an oily character, which seems to contain sulphur; fecula and albumen are likewise found in it. Its active principles are soluble in water, wine, and alcohol.



Archium Lappa.

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It is stimulant, rubefacient, diuretic, anti-scorbutic, &c. Applied to the skin, it produces rubefaction, pain, and all the symptoms of inflammation; and as a rubefacient it may be used externally instead of mustard. We employ it as a diuretic, united with other articles, in dropsy. It is very wholesome used as a condiment with food.

Employment.—Of the infusion, made by adding half an ounce or an ounce of the root to a quart of water, a wineglassful may be taken cold three times a day. Taken warm, it acts as an emetic.

NO. 244.—SCURVY-GRASS.

Common Names.—Common Scurvy-Grass, &c.

C. OFFICINALIS.—Radical leaves roundish; cauline ones oblong, sub-sinulate; silicles globose.

Description.—This is a common plant, indigenous to this country, and grows near the seashore and on the banks of streams. It varies considerably in size and luxuriance, and somewhat in the shape of its foliage. The stem is angular, smooth, usually a foot high, and, in the month of May, ornamented with numerous tufts of flowers of a snow-white color. The leaves are all smooth, and rather succulent: the radical ones on long foot-stalks, of a roundish-heart shape, and wavy; the cauline ones smaller, embracing the stem, oblong, sinuated, or deeply toothed. The calyx-leaves are ovate, obtuse, concave; petals obovate, with longish claws; stamens six, incurved; pod nearly globular, slightly rugose, and crowned with a short style.

Properties.—The whole herb has a warm, acrid taste, and a pungent, rather unpleasant smell when bruised. Its active matter is extracted by maceration, by both water and alcohol; but its principal virtue seems to reside in an essential oil, separable in very small quantity by distillation in water. Scurvy-grass has long enjoyed the reputation of being one of the most powerful of the anti-scorbutic plants. It is recommended strongly, combined with arum and wood-sorrel, in rheumatic and paralytic affections. Of equal virtue, however, with this plant, is the horse-radish, mustard, the tops of turnips, water-cress, lime-juice, oranges, and many other vegetables.

Employment.—As an anti-scorbutic, the expressed juice of the plant should be taken in the quantity of a pint a day, or the smaller leaves daily eaten as a salad.

Order 33. Siliquosa.—Pod much longer than broad.

GENUS CARDAMINE.—Calyx-leaves spreading but little; stigma entire; a single gland between each of the short stamens and the calyx; silique with truncate margins, linear-long, bursting elastically with revolute valves, narrower, but equalling the length of the partitions; seed with funicle, not margined.

NO. 245.—CUCKOO-FLOWER.

Common Names.—Field Water-Cress, Lady's Smock, &c.

Description.—The flowers of this plant are blush-colored, and have a slight aromatic odor, and a pungent, bitter taste. It is found growing all over the United States, in damp situations, and by the sides of ponds and running streams.

Properties.—Stimulant, diaphoretic, and diuretic. The flowers are used. Their virtues depend upon a trace of volatile oil and some bitter extractive which they contain. They are employed in epilepsy and hysterical diseases, chorea, and spasmodic asthma; and have long been a popular remedy for epilepsy in children.

Employment.—The dose of the dried flowers in powder for an adult is from two to three drams several times a day. It is usually combined with the English valerian.

GENUS SINAPIS.—Calyx spreading; claws of the corol straight; glands between the shorter stamens and the pistil, and between the longer stamens and the calyx; silique beaked; partition longer than the valves.

NO. 246.—WHITE MUSTARD.

S. ALBA.—Siliques bristly, swollen at the seed, shorter than the 2-edged beak; leaves pinnatifid.

Description.—The stem of the white mustard is herbaceous, cylindric, two or three feet high; the leaves are lyrate, large, sessile, smooth; the flowers are yellow, small, and disposed in spikes; calyx spreading, petals straight; fruit a slender tetragonal silique. It is a very common plant, and grows luxuriantly in gardens and cultivated fields.

Properties.—Mustard-seed is spheroidal, externally of a brownish-red, internally of a greenish-yellow color, of a sharp and slightly bitter taste, and inodorous when not comminuted. It acquires a strong and very penetrating smell when bruised in water, and gives rise to a peculiar volatile principle which powerfully irritates the eyes. It contains—1. A fixed oil of a greenish-yellow color, soluble in alcohol. 2. Volatile oil, slightly yellow, heavy, of an acrid and sharp taste, soluble in water, and containing sulphur. 3. Vegetable albumen. 4. Mucilage. 5. Sulphur. 6. Nitrogen. 7. Calcareous salts. The active principle of the seed seems to reside in the volatile oil. The fixed oil contains, according to Garot and Henry, a fatty substance analogous to *cholesterine*, a red coloring matter, and a crystallizable acid which they have named SULPHO-SINAPIC.

Mustard-seed is stimulant and rubefacient. Bruised and mixed with Indian meal and vinegar, to form a plaster, and spread on cloth, it is excellent to relieve inflammation, both superficial and deep-seated; and for this purpose I have found it much preferable to Spanish flies *(cantharides)*. The mustard cataplasm or poultice is also used to arouse the system in apoplectic and comatose affections, and in the last stages of low typhus fever. As a preventive of the return of convulsions in children and adults, this cataplasm

ilax Sarsaparilla
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Daucus Carota

should never be omitted. It is a remedy which may be employed to attract and fix gout on the extremities, and likewise in bringing out eruptive diseases that have left the surface. In those cases it should be applied to the extremities. In the latter stages of typhus fevers, the application of the mustard-cataplasm is often succeeded by an erysipelatous inflammation; and in the treatment of cholera, both spasmodic and common, large mustard-poultices applied over the abdomen very much assist in overcoming the disease. Their stimulating properties also make them beneficial in intermittent fevers attended with a cold habit. In dyspepsia and obstinate costiveness they are useful, by stimulating the intestines. Indeed, mustard is an excellent auxiliary in producing revulsion, or in equalizing the circulation. In cases of accidents by poisons, a teaspoonful of mustard-flour, promptly administered, is a very valuable remedy, expelling the poison from the stomach before a practitioner can be called.

Employment.—The dose of the seed in dyspepsia and costiveness is a teaspoonful three or four times a day; cataplasm as above. It is an excellent condiment with food in dyspeptic cases. The black mustard *(Sinapis nigra)* is equally as beneficial in its effects as the white, and is much more pungent. Either kind forms an excellent remedy for asthma.

Adulterations.—Flour of mustard is very often villanously adulterated with Indian meal and a variety of substances, of which we can usually judge by the physical properties of the specimen.

GENUS SISYMBRIUM.—Calyx mostly spreading, equal at the base; silique subterete; cotyledons incumbent, sometimes oblique, flat.

Synonym.—ERYSIMUM of Linnæus and others.

NO. 247.—HEDGE-MUSTARD.

S. OFFICINALIS.—Siliques close-pressed to the rachis of the spike; leaves runcinate.

Description.—This is a small annual plant, growing from one to three feet high, alongside of roads and hedges in Europe and the United States. Its taste is somewhat acrid, especially in the tops and flower-spikes, resembling the mustard, but not so pungent. The seeds have considerable pungency.

Properties.—The herb is diuretic and expectorant, and is recommended in chronic coughs and hoarseness. It is also beneficial in ulceration of the mouth and fauces.

Employment.—A sirup is made of it by mixing an equal quantity of its juice with honey and sugar, or the seeds may be taken in substance.

Class XV. Monadelphia.—Filaments united in one set. The stamens present a columnar form.

Order III. Triandria.—Bearing flowers with three stamens united by their filaments.

GENUS TAMARINDUS.—Petals 3, ascending; 3 filaments longer; legume from 1 to 3 celled, pulpy inside.

NO. 248.—TAMARIND.

T. INDICA.—Calyx in 4 deep segments; petals 3; barren filaments 6 or 7; style 1; legume pulpy within.

Description.—This is an exotic and a fine shade-tree, found in both the Indies, Egypt, and Arabia, but may be cultivated as far north as latitude thirty-eight. The fruit, preserved in sirup, is imported. We use the pulp, which yields its properties to water, being composed of citric, tartaric, and malic acids, with bitartrate of potash, sugar, vegetable jelly, and parenchyma.

Properties.—The fruit is acid, refrigerant, gently laxative, and very grateful in inflammatory diseases.

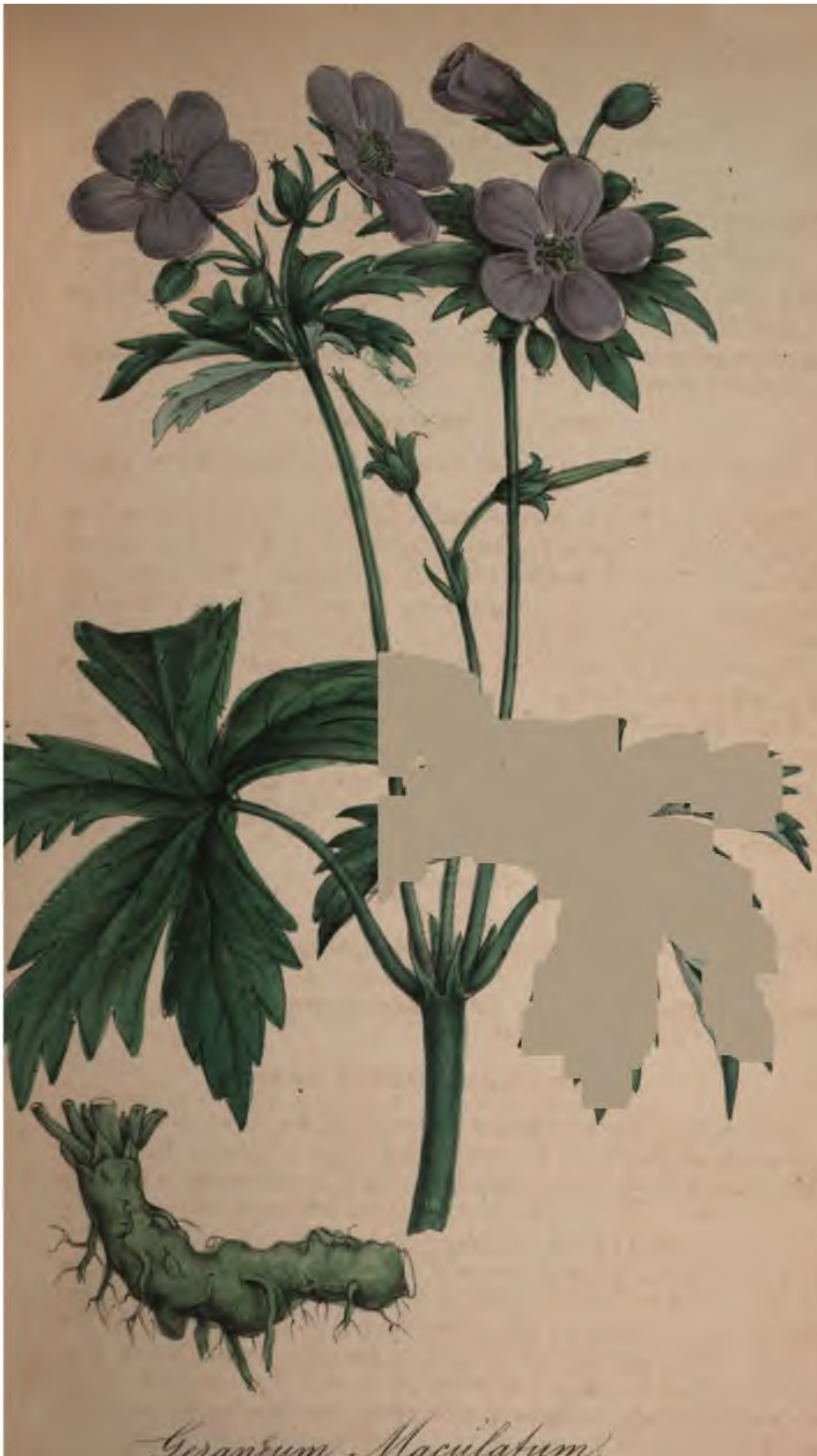
Employment.—The pulp of the fruit is useful in ardent and putrid fevers, diarrhœa, and jaundice. It is often advantageously combined with senna. The dose, when taken alone, is from half an ounce to an ounce. A cooling drink is made from them, which is very proper in febrile affections, allaying the thirst.

Order X. Decandria.—Bearing flowers with ten stamens varying in length, five long and five short.

GENUS ACACIA.—Polyamous. Calyx tubular, 5-toothed; petals 5; stamens 5 to 10, exsert; pod 1-celled, 2-valved.

NO. 249.—GUM-ARABIC TREE.

Description.—There are several species of the *Acacia*, which furnish the gum-arabic of commerce, all exotics, and found in Arabia, Egypt, &c. Gum-arabic occurs in tears or irregularly shaped pieces, varying in size from a pea to that of a chestnut; it is transparent and brittle, but not readily reducible to fine powder; it has a vitreous fracture, and a pale reddish-yellow or pure-white color. It is inodorous, and has a weak mucilaginous taste. Its specific gravity varies from 1·316 to 1·525. The most transparent and whitest tears are picked out and sold as "picked gum," or "gum of the first quality." The other varieties of gum do not differ essentially from gum-arabic; they are usually in larger-sized pieces, and of a darker color; they are inferior in quality to the pure, transparent, white gum-arabic, and should not be used for medical purposes.



Geranium Maculatum.

Properties.—Gum-arabic consists of 79·4 per cent. of soluble gum (ARABIN), 17·6 of water, and 3 of ashes. Some of the inferior sorts of gum contain a large quantity of insoluble gum (BASSORIN). Gum is soluble in its own weight of cold or boiling water, forming a viscid solution (MUCILAGE); it is also soluble in vegetable acids; but is insoluble in alcohol, ether, and the fixed or volatile oils. By exposure to heat, the water it contains is driven off, but it can not be fused. Its solution in water reddens litmus paper faintly

Gum-arabic is highly nutritious. During the whole time of the harvest, of the journey, and of the fair, among the Arabs and Moors of the desert, these wandering tribes subsist almost entirely upon it. It has likewise been ascertained that six ounces of this gum is sufficient to support a person during the space of twenty-four hours. It possesses the properties of a mucilaginous demulcent, which makes it a very valuable remedy in hoarseness, dysentery, stranguary, hooping-cough, &c. In gonorrhœa it is likewise an excellent article. It is very useful as a vehicle for other medicines.

Employment.—The dose of the pulverized gum is from half a dram to a dram. The solution, made by adding half an ounce or an ounce of the gum to a quart of boiling water, may be used as a common drink.

Adulterations.—The finer qualities of gum-arabic are adulterated with the inferior, and these again with the other sorts; but the picked gum ought alone to be used in medicine.

GENUS GERANIUM.—Calyx 5-leaved; corolla 5-petalled, regular; nectariferous glands adhering to the base of the 5 alternating long filaments; arils 5, 1-seeded, awned, beaked at the elongated top of the receptacle; awn naked or smooth within, straight.

NO. 250.—CRANESBILL.

Common Names.—Spotted Cranesbill, Tormentil, Crowfoot, Storkbill, &c.

G. MACULATUM.—Stem erect, dichotomous; leaves hairy, opposite, 3 to 5 parted, gashed, the upper ones sessile; peduncles 2-flowered; petals obovate; flowers large, purple.

Description.—The root of the cranesbill is perennial, horizontal, oblong, thick, rough, knobby, brownish, spotted with greenish-white inside, very brittle when dry, with few short fibres; stem erect, round, with few dichotome branches, and leaves covered, as well as the petioles, with hairs, and from one to two feet high; several radical leaves on long petioles: those on the stem are opposite; floral leaves nearly sessile. The flowers are germinate on biflore peduncles rising from the forks, erect, round, swelled at the base, with linear bracts similar to the stipules; calyx formed by five deep segments, oval, lanceolate, hairy outside; five equal petals; fruit a capsule divided into five cocas, or one-seed capsule. This is a very pretty plant, blossoming from May till July. The most suitable time for collecting it is in the fall.

Properties.—According to the analysis of Dr. E. Staples, cranesbill contains gallic acid, tannin, mucilage, starch, red coloring matter, and probably a crystallizable vegetable substance. The root is powerfully astringent, subtonic, and antiseptic. It is one of the most pleasant and valuable astringents known. Its general effects on the system are, to give tone to the stomach and bowels, to arrest all immoderate discharges, and to prevent internal mortification. Hence its use is indicated in the treatment of morbid discharges connected with relaxation and debility. In the secondary stages of dysentery, diarrhœa, and cholera infantum, it is often found very beneficial. In many sections of the country it is used in domestic practice for all bowel-complaints. Sometimes it has probably proved injurious from administering it at too early a stage of the disease. The usual form of employing it in such cases is in a decoction with milk.

It is said that the aborigines value this plant highly, and use it for wounds, gonorrhœa, ulcers on the legs, diabetes, bloody urine, involuntary discharges of urine, immoderate menstruations, &c. A decoction, made by boiling an ounce of the root in a pint of water, forms a useful gargle in quinsy *(cynanche tonsilaris)*, and in aphthous sores of the mouth and throat; it is likewise a valuable lotion in unhealthy ulcers and passive hemorrhage. As a styptic, the powdered root is highly prized by many practitioners. It is also recommended to bruise the fresh root in cold water, and apply it to the wound, when the hemorrhage will be speedily arrested. According to Dr. Thatcher, the infusion will promptly suppress bleeding at the lungs. Bigelow recommends it as a substitute for the imported and more expensive articles.

Employment.—The dose of the powdered root is from 15 to 25 grains. Of the decoction, made by boiling from an ounce to an ounce and a half of the root in a pint of water, one or two tablespoonfuls may be given at a time.

Order XIII. Polyandria.—Bearing flowers with over ten stamens.

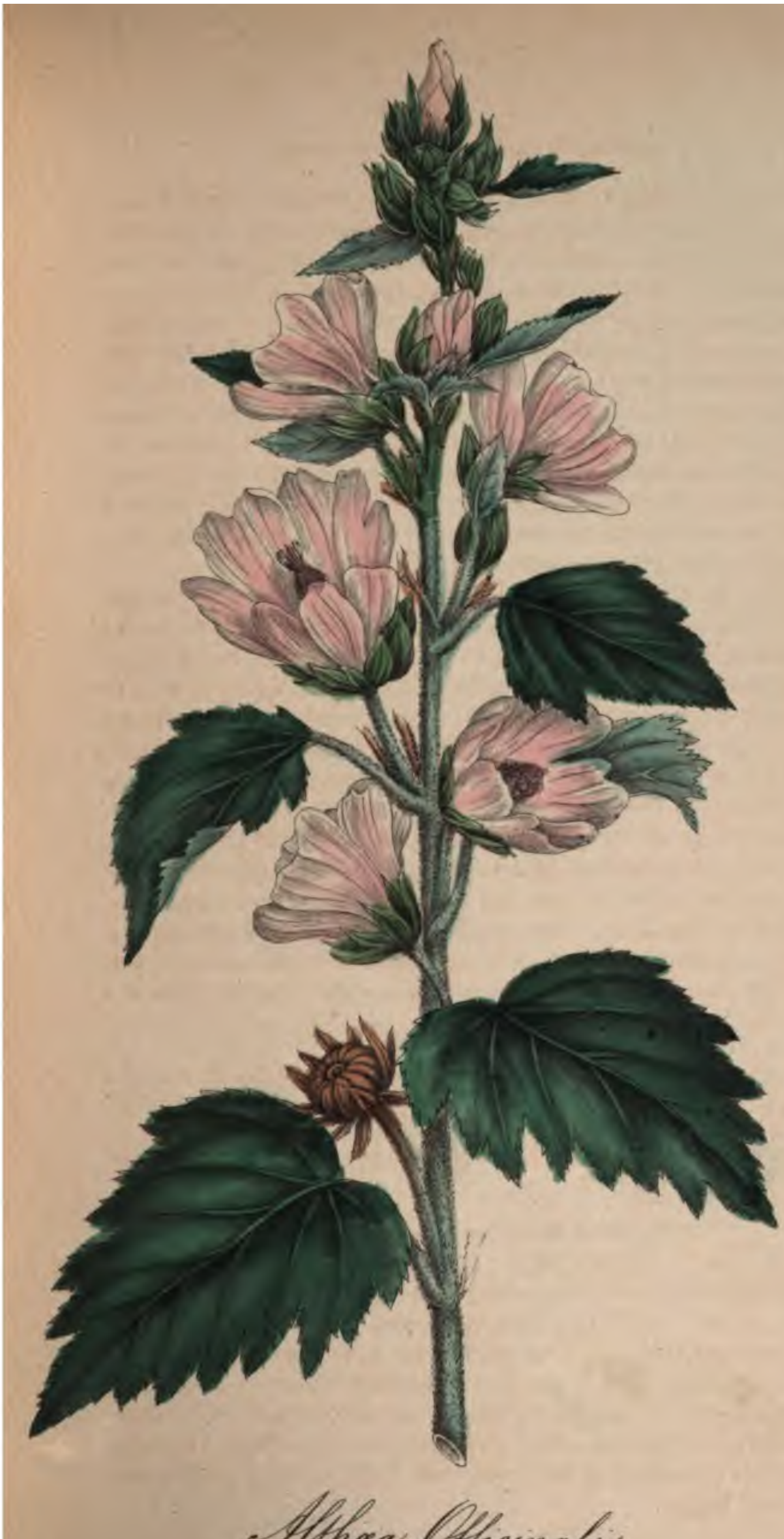
GENUS ALTHÆA.—Calyx double, the outermost 6 to 9 cleft; capsules numerous, 1-seeded, disposed in a flat ring.

NO. 251.—MARSHMALLOW.

Common Names.—Mortification-Root, &c.

A. OFFICINALIS.—Leaves downy, oblong-ovate; obsoletely 3-lobed, serrate.

Description.—This plant rises from three to four feet in height. The leaves are heart-shaped, downy, and smooth; the flowers are of a rose-white color, large, consisting of five petals, heart-shaped inversely, situated in panicles at the top of the stem; calyx double, the exterior 9-divided, the interior 5-divided; ovary free, rounded; style simple, monospermous; capsules united in a circle at the base of the style; root fusiform, fleshy, of the size of the finger and larger.



Althæa Officinalis.

The marshmallow is a perennial plant, indigenous to Europe, and grows plentifully throughout the United States, along the banks of rivers and marshy places; it is also extensively cultivated in our medical gardens. It flowers in June and July. The root is of a white color, inodorous, and of a viscous taste. All parts of the plant, especially the roots, contain a large quantity of gum and fecula. Boiling water takes up its principles.

Properties.—This plant is emollient and demulcent. It is good in diseases attended with irritation and pain, especially those of the urinary organs, and is used with great advantage in dysentery. It likewise relaxes the passages in nephritic affections, in which the best mode of administering it is by decoction; and is given in gonorrhœa, cystesis, and bronchitis, either alone or as a vehicle for other medicines. Two or three ounces of the fresh roots may be boiled in a sufficient quantity of water to make a quart of sirup, to which add one ounce of gum-arabic. The following preparation is also given where large quantities are required: an ounce of the dried roots to be boiled in water enough to leave two or three pints, which may be poured off for use. If more of the root be used, the liquor will be disagreeably slimy. It may be rendered palatable by adding licorice-root to sweeten it. This is a very useful fomentation and wash for canker of the mouth.

But the most important remedial application of the marshmallow is external in the form of poultice, by subduing inflammation and preventing the occurrence of mortification when threatened; also to discuss painful inflammatory tumors and swellings of every kind during their acute period. There is perhaps no substance entitled to so much confidence, and which has proved so pre-eminently useful for the above-named purposes, as poultices of the root of the marshmallow, prepared by first cutting the fresh root into very small pieces, bruising them as finely as possible, and then boiling the mass in sweet milk, occasionally adding a small quantity of powdered elm-bark, until reduced to the proper consistence. The inflamed surface should be completely covered with this poultice, spread moderately thick on linen for that purpose, and applied as warm as it can be borne, renewing it as often as it becomes dry, especially in cases of an aggravated character, threatening to run into a gangrenous state. It is a soothing and powerful application, relieving the pain and removing the inflammation with promptness and certainty. Its great anti-mortification virtues have obtained for it, in many parts of the country, the popular name of mortification-root. In France, the powdered root is much used in forming pills, troches, and electuaries.

Employment.—Decoction, as described above. The troches are made of the following proportions: marshmallow-root, two parts; orris-root, one part; sugar, thirty-six parts; gum-arabic sufficient to form into troches. Made into an ointment, it proves very serviceable in herpetic affections, and is good to allay itching and burning, arising from whatever cause. It is also beneficial in bowel-complaints and in all disorders of the urinary organs.

Incompatibles.—Iodine, and the tincture of the muriate of iron.

NO. 252.—HOLLYHOCK.

A. ROSA.—Stem erect; leaves rough, heart-form, 5 to 7 angled, crenate.

Description.—This beautiful exotic and well-known garden plant needs no description. It is a native of Spain, and is cultivated all over this country, not only for its great beauty, but also on account of its valuable medical qualities.

Properties and Uses.—Mucilaginous, emollient, and nutritious. A tea made of the flowers is employed in inflammation of the mucous membrane, and soreness of any part of the alimentary canal, and also as a vehicle for many medicines and poultices calculated to allay irritation and inflammation. It is likewise useful in fluor-albus. The petals themselves, when fresh and bruised, make an excellent emollient poultice.

GENUS MALVA.—Calyx double, outer one 6 or 9-cleft; capsules many, arranged circularly, 1-celled, 1-seeded.

NO. 253.—LOW MALLOW.

Common Names.—Cheese-Plant, &c.

M. ROTUNDIFOLIA.—Leaves heart-orbicular, obsoletely 5-lobed; peduncles bearing the fruit declined; stem prostrate.

Description.—This plant, a native of Europe, is found growing about houses, footpaths, among rubbish, and by the sides of roads, in this country. It has probably been introduced. It is a well-known annual, creeping upon the ground, and bearing a fruit popularly called cheeses.

Properties and Uses.—The whole plant abounds with mucilage, and is very useful in decoction for dysentery, stranguary, and all urinary difficulties and complaints. It is often employed in emollient cataplasms, clysters, and fomentations, and has a strong affinity to the *Althea* in all its medical properties.

Class XVI. Diadelphia.—The filaments of the stamens growing together in two sets.

Orders V to VIII. Pent-Octandria.—Bearing flowers with five or eight stamens.

GENUS CORYDALIS.—Calyx 2-leaved; corol ringent, 1 or 2 spurred or gibbous at the base; filaments 2, membranaceous, each with 3 anthers; capsule silique-like, 2-valved, compressed, many-seeded.

Synonym.—FUMARIA, Linn.

NO. 254.—TURKEY-CORN.

C. FORMASA.—Scape naked; raceme somewhat compound, nodding, many-flowered; nectaries very short, incurved; style extended; root tuberous.

Description.—This is one of our earliest spring plants, sometimes making its appearance in March. It is a very beautiful little plant, rising from eight to ten inches high. The scape or flower-stem is naked; the raceme compound and nodding, many-flowered; nectaries short and incurved; style extended, and the root tuberous.

Properties.—The medical properties of this article are but imperfectly understood, but deserve attention and experiment. It is a pure bitter, and seems to possess the properties of most of the simple bitters, as the gentian, columbo, chamomile, &c. It promotes digestion, and appears to exert an influence upon the system similar to the simple tonics. In addition to these properties, it is believed to be an alterative of unusual efficacy in the treatment of syphilitic affections. In cases where that disease had been of several months' standing, and had assumed a secondary form, characterized by an inflammation of the fauces or throat, ulcerations with indurated edges, eruptions or livid spots all over the body, and the hair falling from the head, it has speedily arrested the complaint, and in a few weeks effected a complete cure.

Employment.—It is best to first administer our ordinary purge, repeating the dose (consisting of about one dram) from four to six times, and then give the *Corydalis* in the form of an infusion, prepared by adding from two to four drams of the plant to a pint of boiling water, using that quantity in twenty-four hours in divided doses, if the stomach will retain it; if not, take less. The ulcers should be washed several times daily with a decoction of the same, and then dressed with the *Black Salve.* It may be occasionally necessary to touch the ulcers with some mild caustic. The body should be bathed every night with the *Alkaline Bath.* The turkey-corn would also unquestionably prove a valuable alterative in scrofula and other complaints where this class of agents is indicated.

GENUS FUMARIA.—Calyx 2-leaved, caducous; corol irregular, spurred or gibbous at the base of one petal; filaments 2, each with 3 anthers; capsule or silicle drupe-like, 1-celled, 1-seeded, not opening by valves; seeds affixed to the side of the cell.

NO. 255.—FUMITORY.

F. OFFICINALIS.—Stem branching, spread; leaves more than decompound; leaflets lance-wedge-form, gashed.

Description.—This is a beautiful little annual, a native of the south of Europe, but now naturalized in this country, and cultivated in our medical gardens.

Properties.—The leaves or tops are the parts used. They are inodorous, have a bitter saline taste, and are very succulent, yielding by expression a juice which has the sensible and medicinal properties of the plant. An extract prepared by evaporating this juice, or a decoction of the leaves, throws out upon its surface a copious saline efflorescence. The plant, indeed, abounds in saline substances, and to these, in connexion with its bitter extractive, are to be ascribed the medical virtues which it possesses. It is gently tonic, in large doses laxative and diuretic, and is thought, moreover, to exercise an alterative influence over the system. In both ancient and modern times it has been esteemed as a valuable remedy in visceral obstructions, particularly those of the liver, in scorbutic affections, and in various troublesome eruptive diseases of the skin. Whitlaw says that the herb and seeds have been used with success in scurvy, scabies, and gout.

Employment.—The leaves, either fresh or dried, may be used in decoction, without precise limitation as regards the dose. The inspissated juice and an extract of the dried leaves have also been employed, and are said to have all the virtues of the leaves themselves.

GENUS POLYGALA.—Calyx 5-leaved, permanent, unequal, two of the leaflets wing-like, larger, colored; corol irregular (or rather, calyx 3-leaved, corol imperfectly papilionaceous); capsule obcordate, 2-celled, 2-valved.

NO. 256.—GROUND-FLOWER.

Common Names.—Bitter Polygala, &c.

P. POLYGAMA.—Stem sub-simple, erectish; leaves oblanceolate or linear, mucronate; terminal racemes with perfect flowers; radical ones aptaleous, prostrate; bracts small, subulate, caducous; calycine wings roundish, longer than the capsule.

Synonym.—*Polygala rubella*, Wildenow.

Description.—This species is an indigenous perennial, and is interesting from the curious manner in which a part of the fruit is produced, by a kind of imperfect flower growing close to, and in some instances under, the surface of the ground. There are other species of the *Polygala* which have this peculiarity. It is found in dry, sandy, or gravelly soils, in many parts of the United States, and flowers in June and July. The root is somewhat fusiform, perennial, branching; stems numerous, ascending, smooth, angular, simple; leaves scattered, smooth: the lower ones obovate, smaller; the upper ones linear-lanceolate, obtuse, mucronated, sessile; flowers purple, short-crested, in terminal racemes.

Properties.—This plant is closely allied to the *Polygala amara* of Europe in its medical properties, and is here used for similar purposes. In small doses it is tonic, and in larger ones laxative and diaphoretic.

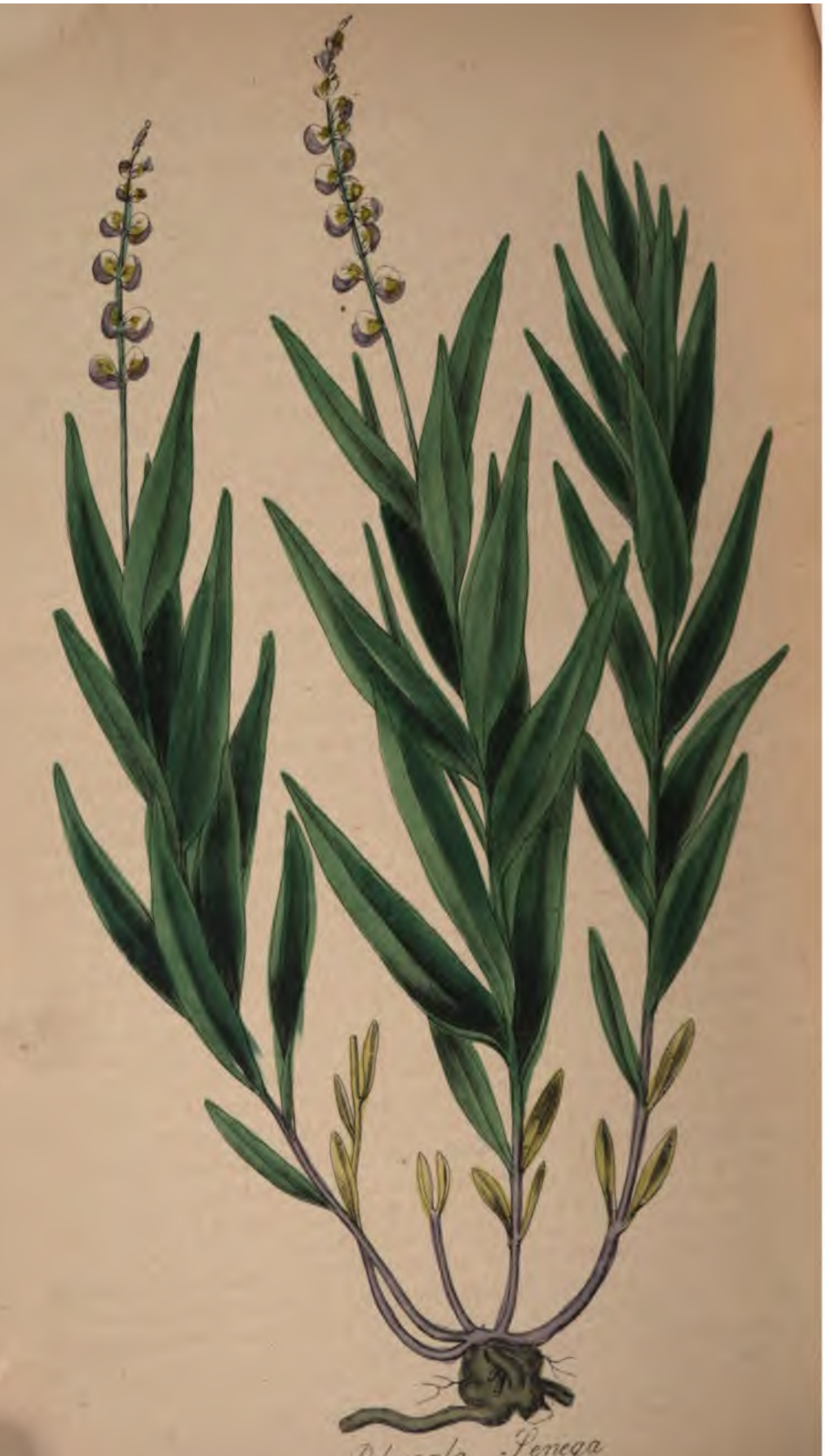
Employment.—The infusion of the dried plant is usually employed, which acts favorably, and imparts tone to the stomach.

NO. 257.—SENEKA SNAKE-ROOT.

Common Names.—Mountain-Flax, Milkwort, &c.

P. SENEGA.—Stem erect, herbaceous, quite simple, leafy; leaves alternate, lanceolate, acute; spikes terminal, filiform; flowers beardless, alternate, white.

Description.—This is a perennial plant, indigenous to America. It is found growing in nearly all the states of the Union, but more particularly in



Polygala Senega

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Pennsylvania and Virginia. The stem is herbaceous, from eight to ten inches high; leaves sessile, oval, of a light-green color; flowers small, in terminal spikes; calyx five deep and irregular divisions; corolla irregular: five petals; fruit a compressed and bivalve capsule, with two monospermous cells, containing black elongated seeds, terminated in a point. The root is of a variable size, from that of a quill to the size of the little finger, contorted, ramose, having on one side a sort of longitudinal membranous margin. Its bark is grayish, resinous, and covering a whitish and lignous meditullium. Its odor is weak and nauseous; its taste is sweet at first, afterward acrid and bitter, and provokes coughing and salivation. It yields its properties to both water and alcohol.

Properties.—According to M. Gehlin, this root contains SENEGIN, 6·15, resin, 7·5; sweet extractive matter, 26·85; gum and albumen, 9·5; lignous fibres, &c., 50. According to Dr. Giacombo Folchi, it is composed of a thick oil, partly volatile; free gallic acid; an acrid matter; a yellow coloring matter; a little wax; a gummy extract; a matter containing nitrogen, similar to gluten; woody fibres, sub-carbonate, sulphate, and muriate of potassa; carbonate, sulphate, and a little phosphate of lime; carbonate of magnesia, iron, and silex.

M. Peschier, an eminent pharmaceutist of Geneva (Switzerland), asserts that he obtained from the *Polygala senega* three new substances, which he calls POLYGALINA, POLYGALIC ACID, and ISOLISIN. The first two substances form in the root a polygalate of polygalina. Water and alcohol take up the remedial principles of the root.

SENEGIN seems to be the active principle of *Polygala*. It is solid, brown, translucid, and of an unpleasant taste; when it is reduced to powder, its smell provokes sneezing. It is insoluble in water and ether, but easily soluble in alcohol. It has not as yet been introduced into practice. Dr. Tenent, of Virginia, recommends it as a cure for the bite of the rattlesnake.

The seneka snake-root is possessed of very energetic stimulant properties. Given in large doses, it induces vomiting and alvine evacuations. This article has been highly recomended in croup *(cynanche trachialis)*, but I have never seen any very great benefit arise from its use in that disease. I have sometimes witnessed its good effects as a hydragogue in dropsical complaints. In the latter stages of pneumonia, this article is of service as an expectorant. "Seneka-root," says Neligan, "is a stimulating expectorant of much power, peculiarly fitted for the advanced stages of chronic bronchitis and of pneumonia, especially when occurring in the aged and debilitated. It is also a very valuable remedy in protracted hooping-cough, and in the latter stages of croup and of bronchitis in infants and children."

Employment.—The dose of the pulverized root is from ten grains to half a dram. The decoction is made by adding an ounce of the bruised root to a pint of boiling water, and simmering it in a close vessel until the liquid is reduced to one third of its original quantity.

Order X. Decandria.—Bearing flowers mostly with ten stamens and leguminous pods.

GENUS GENISTA.—Calyx 3-lipped, upper lip with 2, lower lip with 3 teeth.

NO. 256.—DYERS' BROOM.

Common Names.—Dyers'-weed, Greenweed, Woadwaxen, &c.

G. TINCTORIA.—Leaves lanceolate, glabrous; branches terete, striate, erect, unarmed; legumes glabrous.

Description.—This plant is an exotic, a native of England and the south of Europe, and is cultivated in gardens in this country. The flowering tops of the plant are employed to dye a bright-yellow color (whence its name is derived), and for wool that is to be dyed green with woad dyers prefer it to all others. The plants are shrubs or undershrubs, some of them evergreen, and many with numerous flexible, rush-like, green twigs, like the brooms. They are of easy culture, and free flowerers. *Genista tinctoria* is common in most parts of Europe, in unimproved pastures, on dry, gravelly soil. When cows feed on it, their milk, and the butter or cheese made from it, are said to be very bitter.

Properties.—Both tops and seeds have been employed in medicine: they are purgative, and even emetic, especially the seeds, which were formerly used as a cathartic in the dose of one and a half drams. By some authors they are said to be diuretic, and to be employed in dropsy; but it may be a question whether they were not confounded with the seeds and tops of the common broom *(Cytisus scoparius).* Attention was some years since attracted to the plant as a preventive of hydrophobia, for which purpose it was said to have been long and effectually used by the peasants of Russia. When M. Marochetti, an operator in the hospital of Moscow, was in the Ukraine, in 1813, in one day fifteen persons applied to him for cure, having been bitten by a mad dog. While he was preparing the remedies, a deputation of several old men made its appearance, to request him to allow a peasant to treat them—a man who for some years past had enjoyed a great reputation for his cures of hydrophobia, and of whose success Marochetti had already heard much. He consented to their request under these conditions: first, that he himself should be present at everything done by the peasant; and, secondly, in order that he might be fully convinced that the dog was really mad, he (Marochetti) should select one of the patients, who should only be treated according to the medical course usually held in estimation. A girl six years old was chosen for this purpose.

The peasant gave to his fourteen patients a strong decoction of the tops and flowers of the *Genista tinctoria* (about one and a half pounds daily), and examined twice a day under the tongues, where, as he stated, small knots containing the poison of the madness must form themselves. As soon as these small knots actually appeared, and which Marochetti himself saw, they were opened and cauterized with a red-hot needle, after which the patient gargled with a decoction of the *Genista*. The result of this treatment was, that all the fourteen (of whom only two, the last bitten, did not show these knots) were dismissed cured at the end of six weeks, during which time they drank the above decoction. But the little girl, who had been treated according to the usual methods, was seized with hydrophobic symptoms on the seventh day, and was dead in eight hours after they first took place. The persons dismissed as cured were seen three years afterward by Marochetti, and they were all sound and well.

Employment.—One and a half drams of the powdered seeds operate as a mild purgative. A decoction of the plant is sometimes diuretic, and therefore has proved serviceable in dropsical cases. A salt prepared from the ashes is recommended in the same disorder.

GENUS GLYCYRRHIZA.—Calyx 2-lipped, the upper lip 3-parted, lower undivided; legume ovate, compressed.

NO. 259.—LICORICE.

G. GLABRA.—Legumes glabrous; flowers racemed, violet; stipules none; leaflets ovate, somewhat retuse.

Description.—Licorice is a perennial plant, and indigenons to the south of Europe. It is likewise cultivated in England for medical use. The stem is straight, glabrous, from three to four feet high; leaves imparipinnate, with thirteen oval folioles, covered with a viscous substance; flowers violet, in axillary spikes; calyx tubular, bilabiate, unequally 5-toothed; carena formed of two distinct petals; ten diadelphous stamina; fruit a flattened pod containing from three to six seeds. The root is long, cylindrical, of the size of the finger, brownish externally, yellow internally, of a sweet taste, slightly acrid, and of a faint smell.

Properties.—Licorice-root contains, according to M. Robiquet, a peculiar saccharine substance, which can not be fermented, called GLYCYRRHIZIN; a matter analogous to ASPARAGIN, but crystallizable; starch and albumen; a resinous oil, thick and acrid; some phosphate and malate of lime and magnesia; finally, some lignous fibres. Cold water dissolves its sugary and demulcent principles, but it does not take up the acrid oil, which dissolves only in warm water.

The root of this plant is emollient and demulcent, and is at present used principally to alleviate coughs, inflammation of the lungs *(pneumonia)*, and in consumption. The extract is much employed in catarrhal affections. Dr. Chapman, in his "Therapeutics," says, "I know not, indeed, any article possessing in a higher degree the quality of calming pulmonary irritation, than licorice."

The late Dr. James Malone, of London, gave the following recipe for a cold: Take a large teaspoonful of linseed, four cents' worth of stick-licorice, and a quarter of a pound of sun raisins; put them into two quarts of soft water, and simmer it down to one quart; then add to it a quarter of a pound of pulverized brown-sugar candy, and a tablespoonful of white-wine vinegar, or lemon-juice. (It is best to add the vinegar only to that quantity which is required for immediate use; for if it be put into the whole, it is liable in a short time to become insipid.) Drink half a pint on going to bed, and take a little when the cough is troublesome. This preparation generally cures the worst of colds in two or three days; and, if taken in time, it may be said to be an almost infallible remedy. It is a sovereign balsamic cordial for the lungs, without those opening qualities which endanger fresh colds by exposure on going out. It has been known in less than three weeks to cure colds that have nearly resulted in consumptions.

Employment.—From twelve grains to one dram of the powdered root may be given at a dose. The cold infusion is prepared by adding from two to three drams of the root to a quart of boiling water. The dose of the extract is from half an ounce to an ounce. Dr. Sawyer, of Cleveland, Ohio, a graduate of our school, states that the following preparation cured him of a very deep-seated cold, bordering on consumption: Take equal parts of licorice-root, lungwort, and Iceland-moss; make a strong decoction, sweeten with rock-candy, and drink as much as the stomach will bear.

Licorice-root is much used to sweeten sirups, to save sugar; and the powder is employed in pharmacy to cover pills and to give them a proper consistence.

Adulterations.—Licorice-powder is often adulterated—sometimes with French yellow, which may be detected by its effervescing on the addition of muriatic acid.

GENUS INDIGOFERA.—Calyx spreading; keel with a subulate spur on both sides; legume linear, small, terete, or quadrangular.

NO. 260.—INDIGO.

I. TINCTORIA.—Leaves pinnate, oblong, glabrous, in four pairs; racemes shorter than the leaves; legume terete, somewhat arched.

Description.—Indigo is the product of several plants, which are mostly species of this genus, and are natives of India. The plants are cut down just before the flowers appear, placed in large vats and covered with water, in which they are left for about twelve hours, until fermentation takes place, which process is sometimes promoted by using lime-water. The liquor, which has acquired a yellow color, is drawn off into another vat, beaten with rods, and constantly agitated until it becomes blue, and the indigo precipitates. It is then drained on calico, pressed, and dried.

Indigo, as met with in commerce, is of a deep-blue color shaded with violet, smooth and hard; when rubbed, it acquires a metallic appearance. It is inodorous, but has a somewhat metallic taste. It is a compound substance, consisting of a glutinous matter, indigo blue (INDIGOTIN), indigo brown, and indigo red. It is insoluble in water, in cold alcohol, and in ether; it is partially soluble in boiling alcohol.

Properties.—Indigo has been recently employed in the treatment of nervous and spasmodic diseases, and it is said with great success. The diseases in which it has been found peculiarly beneficial are idiopathic epilepsy, chorea, hysteria, and convulsions. I have never used this article in my practice, but have been assured that in cases of tapeworm it has been found effectual when other means have failed.

Employment.—Indigo is directed to be given in as large doses as the stomach will bear; but as it acts with much difference on different individuals, the dose should not at first exceed five grains three times a day, but it should be rapidly increased until one ounce or even more is taken daily. It is best administered in the form of electuary, made with one part of indigo and two of sirup or honey, with which aromatics are in general combined. Compound pills of indigo are made of the following proportions: indigo, fifteen grains; powdered opium, two grains; extract of valerian and extract of cinchona, of each twenty-two grains; mix and divide into twenty-four pills. Dose, four daily. This combination has been highly praised by M. Michel, in idiopathic epilepsy; he directs for the patient at the same time a wine-glassful of infusion of arnica-flowers morning and evening.

GENUS MELILOTUS.—Flowers racemed; calyx tubular, 5-toothed; keel simple, shorter than the wings and banner; legume rugose, longer than the calyx, or about as long.

NO. 261.—MELILOT.

Common Names.—King's Clover, Sweet Clover, &c.

M. ALBA.—Stem erect; leaflets variable, mucronately serrate; banner longer than the wings; racemes axillary, panicled; the longest raceme from six to ten times as long as the longest leaflet at its base; legumes oval.

Description.—This is probably an exotic, introduced into this country by its first settlers. There are two varieties, one bearing white and the other yellow blossoms. When in flower it has a peculiar, sweet odor, which becomes stronger on drying, and resembles that of the Tonqua-bean, on which account it is much cultivated in yards and gardens. It frequently attains the height of from four to six feet, and has many branches.

Properties.—The flowers and leaves are pectoral, emollient, resolvent, lubricant, &c. Their taste is slightly bitterish. They have been found useful in disury, leucorrhœa, and coughs; but perhaps they are best employed as a topical agent to allay moderate inflammation and swellings.

Employment.—The decoction of the leaves and flowers is used, and they are also made into cataplasms and ointments.

NUS SPARTIUM.—Stigma longitudinal, pubescent above; filaments adhering to the ovary; calyx lengthened at the base.

NO. 262.—SPANISH BROOM.

JUNCEUM.—Branches opposite, virgate, with terminal flowers; leaves lanceolate, glabrous.

Description.—This is a small shrub, indigenous to the south of Europe, d cultivated in our gardens as an ornamental plant. The flowers are large, llow, and of an agreeable odor.

Properties and Uses.—The seeds are in moderate doses diuretic and tonic, large doses emetic and cathartic, and have been used advantageously in opsy. The dose is from ten to fifteen grains three times a day. They y also be given in tincture.

NO. 263.—SCOTCH BROOM.

SCOPARIUM.—Leaves ternate, solitary, and oblong; flowers axillary; legumes pilose at the margin; branches angular.

Description.—This is a common European shrub, cultivated in our gar- ns, growing from three to eight feet high, with numerous straight, pentan- lar, bright-green, very flexible branches, and small, oblong, downy leaves, ich are usually ternate, but on the upper part of the plant are sometimes nple. The flowers are numerous, papilionaceous, large, showy, of a lden-yellow color, and supported solitarily upon short axillary peduncles. e seeds are contained in a compressed legume, which is hairy at the tures.

The whole plant has a bitter, nauseous taste, and, when bruised, a strong, culiar odor. The tops of the branches are the officinal portion; but the eds are also used, and while they possess similar virtues, have the advan- e of keeping better. Water and alcohol extract their active properties.

Properties and Uses.—The Scotch broom is diuretic and cathartic, and large doses emetic, and has been employed with great asserted advantage dropsical complaints. Cullen prescribed it in the form of decoction, made boiling half an ounce of the fresh tops in a pint of water down to half a t, of which he gave a fluid ounce every hour till it operated by stool or ine. The seeds may be given in powder, in the dose of from ten to fif- n grains.

NUS TRIFOLIUM.—Flowers sub-capitate; legume included in the calyx, not opening by valves, 1 to 4 seeded; leaves always ternate.

NO. 264.—RED CLOVER.

PRATENSE.—Ascending, smoothish; leaflets ovate, sub-entire; stipules awned; spikes dense-ovate; lower tooth of the calyx shorter than the tube of the corolla, and longer than the other teeth.

Description.—Red clover, growing in all our meadows, is too well known to require particular description.

Properties and Uses.—The blossoms are boiled in water, which is then strained off and simmered down to a thick sirup. This makes an adhesive plaster, which is emollient and antiseptic, and very useful for old sores, scrofulous tumors, sore lips, &c. Its reputation as a cancer-plaster is far from being a deserved one. The roots in infusion, drank freely, will correct the acidity of the stomach, and have valuable detergent properties in diseases of the blood. It is also proper as a wash for foul sores, ulcers, &c. The white-clover heads (*Trifolium repens*) are sub-astringent, and were once very popular in the treatment of gout and similar affections.

Class XVII. Syngeneſia.—Bearing compound flowers, filaments mostly five; anthers united.

Order I. Polygamia Equalis.—Containing all those compound flowers which have the flowers perfect.

GENUS ARCTIUM.—Calyx globose, with scales hooked at the apex; egret chaff-bristly; receptacle chaffy.

NO. 265.—BURDOCK.

A. LAPPA.—Cauline leaves cordate, petioled, denticulate; calyx smooth; flowers pale-blue.

Description.—This plant is indigenous to Europe, and naturalized in America. It grows abundantly in damp places, along the sides of roads, and around old buildings. It rises three feet in height; the stem is large and purplish; branches alternate; leaves alternate, heart-shaped, veiny, dark-green above, whitish beneath: lower leaves large, standing upon long foot-stalks, grooved like the stem. The flowers are numerous, purplish, generally ending in pairs; seeds triangular; root long, fibrous, fusiform, brownish externally, yellowish internally. It flowers in July and August, and is well known by the burs or heads, which adhere to the clothes. The seeds ripen in September.

Properties.—This plant, of which no accurate analysis has yet been made, appears to contain sulphur in a free state, oxalate of lime, starch, and some extractive principles soluble in water. The stalks are eaten in some parts of Europe with oil and vinegar, as a salad, being cut before the plant is in bloom, and the rind peeled off. Three pounds of the ashes, procured by burning the leaves and stems between the time of flowering and seeding, will yield sixteen ounces of white alkaline salt, equal to the best potash. The root, which loses four fifths of its weight by drying, has a sweetish and mucilaginous taste, with a slight degree of bitterness. A decoction of the fresh-bruised roots may be employed in diseases of the kidneys and obstruction of the urine. A pint may be taken in the course of twenty-four hours. The leaves, bruised with a roller and moistened with rheumatic drops, form an excellent application for sprains, bruises, and other external injuries. They speedily allay the pain and inflammation. In gouty affections, where the feet are swelled, the same application is equally beneficial. Applied also to the feet and forehead, they are useful in febrile affections.

The root is used as an alterative. It is administered in the form of decoction in salt-rheum, herpes, ulcers, rheumatism, and in all diseases of the skin. As the seeds are very diuretic, Thornton recommends their employment in dropsy, having known them to succeed in two cases where other powerful medicines had been ineffectually used. The seeds or the root occasionally enter into the *Alterative Sirup* of our pharmacopœia.

Employment.—The root or seeds may be given in the form of decoction or infusion, which is made by boiling two ounces of the fresh root in three pints of water down to two, which, when intended as a diuretic, should be drank in the course of two days. The root also enters into a medical beer, which is a good purifier of the blood.

GENUS CARTHAMUS.—Calyx ovate, imbricate with scales, ovatish, leafy at the apex; egret chaff-hairy or none; receptacle chaff-bristly.

NO. 266.—GARDEN SAFFRON.

Common Names.—Dyers' Saffron, False Saffron, Safflower, &c.

C. TINCTORIUS.—Leaves oval, entire, serrate, aculeate.

Description.—This well-known garden plant is an annual, with a smooth, erect stem, somewhat branched at top, and a foot or two in height; the leaves are alternate, sessile, ovate, acute, entire, and furnished with spiny teeth; the flowers are compound, in large, terminal, solitary heads; the florets are of an orange-red color, with a funnel-shaped corolla, of which the tube is long, slender, and cylindrical, and the border divided into five equal, lanceolate, narrow segments.

The plant is a native of the Levant and Egypt, but is cultivated in various parts of Europe and America. The florets are the part employed; they are brought to us chiefly from the ports of the Mediterranean. Considerable quantities are produced in this country, and sold under the name of American saffron.

Properties.—Safflower in mass is of a red color, diversified by the yellowness of the filaments contained within the floret. It has a peculiar, slightly aromatic odor, and a scarcely perceptible bitterness. Among its ingredients are two coloring substances: one red, insoluble in water, slightly soluble in alcohol, very soluble in alkaline liquids, and called CARTHAMITE (*carthamic acid* by Döbereiner); the other yellow and soluble in water. It is the former which renders safflower useful as a dye-stuff. Carthamite, mixed with finely-powdered talc, forms the cosmetic powder known by the name of *rouge*.

In large doses, carthamus is said to be laxative; and administered in the state of warm infusion, it proves somewhat diaphoretic. It is used in domestic practice, as a substitute for saffron, in measles, scarlatina, and other exanthematous diseases, in order to promote the eruption.

Employment.—An infusion, made by adding two drams to a pint of boiling water, is usually employed, and given without restriction as to quantity.

GENUS CICHORIUM.—**Calyx calycled; egret plumose, sessile, unequal; many-leaved, chaffy.**

NO. 267.—ENDIVE.

Common Names.—Wild Succory, &c.

C. INTYBUS.—Flowers axillary, in pairs, sessile; leaves runcinate.

Description.—This is a perennial, herbaceous plant, indigenous to Europe, but naturalized in this country, where it grows in fields, and in roads along the fences, in neighborhoods which have been long settled. It is one or two feet high, with large, compound, beautifully blue flowers, which appear in July and August, and serve to distinguish the plant at first sight. The whole plant has a bitter taste, without acrimony, or any very peculiar flavor. The taste is strongest in the root, and weakest in the flowers. The leaves, when young and tender, are said to be sometimes eaten as salad in Europe.

Properties.—Aperient, deobstruent, tonic, and diuretic. The roots and leaves are useful aperients, acting mildly and without irritation, and may be given with safety in hectic and inflammatory cases, in hepatic congestion, jaundice, and other visceral obstructions in their early stages. The expressed juice, taken in large doses frequently repeated, has been found efficacious in pulmonary consumption as well as in various other complaints. The *Cichorium endivia*, or garden succory, possesses similar properties, but not in so efficacious a degree.

Employment.—The usual form of administration is that of decoction, which is prepared by boiling one or two ounces of the root, or a handful of the herb, in a pint of water. The root dried and roasted has acquired some popularity, in certain parts of Europe, as a substitute for coffee.

GENUS EUPATORIUM.—Calyx imbricated, oblong; style long, cloven half way down; egret pilose, scabrous, or rough papillose; receptacle naked; seed smooth and glandular, 5-striate.

NO. 268.—WHITE SANICLE.

Common Names.—White Snake-root, Pool-root, &c.

E. AGERATOIDES.—Leaves petioled, ovate, acuminate, 3-nerved, unequally and coarsely toothed, serrate, glabrous; corymb many-flowered, spreading; calyx simple.

Synonyms.—*Eupatorium urticæfolium*, Michaux; *Ageratum altissimum*, Linnæus.

Description.—This plant grows abundantly in nearly every part of the United States, more particularly in the middle sections of the Union. It rises from one to three or four feet in height, and bears a white flower. It has a whitish, fibrous root, which is the only part used in medicine; for this purpose it should be collected in September and October. The root has a somewhat bitter taste, an aromatic and pleasant odor, and when it grows on dry ground, has the appearance of being mildewed. The stalk is furrowed, the leaves and branches in opposite pairs, the leaves being on long footstalks, and about the size of large apple-tree leaves.

Properties.—The properties of the white sanicle are those of a valuable diaphoretic, anti-spasmodic, aromatic, and nervine; it likewise possesses expectorant virtues of considerable value. It operates on the lungs with decided efficacy, promoting the freedom of expectoration and breathing, and at the same time produces, when given in a suitable form and to a sufficient extent, a gentle perspiration, calming the irritability of the nervous system, and will be found well adapted to the treatment of pleurisies, inflammation of the lungs, and most of the diseases attended with convulsions and nervous irritation.

Employment.—It is used in the form of infusion or decoction, prepared by pouring a pint of boiling water on an ounce of the bruised root, of which from one tablespoonful to half a teacupful may be taken at a dose.

NO. 269.—BONESET.

Common Names.—Thoroughwort, Joepye, Feverwort, Sweating-plant, Thoroughstem, Crosswort, Indian Sage, Ague-weed, Thoroughwax, Vegetable Antimony, &c.

E. PERFOLIATUM.—Leaves connate-perfoliate, oblong, serrate, rugose, downy beneath; stem villose; flowers white.

Description.—Boneset is found growing throughout the United States, from Maine to Florida, and from Ohio to Louisiana, most commonly in meadows and swamps near streams. It is a very striking plant, easily recognised, even when not in bloom, by its connate leaves perforated by the stem. It blossoms from August to October.

The root is perennial, horizontal, crooked, with scanty fibres, and sending up many stems, which are upright, simple at the base, branched above in a trichotome form, forming a depressed corymb, from two to five feet high, round, and covered with flexuous hairs. The whole plant has a grayish-green color, and even the flowers are of a dull white. The leaves are opposite, decussate, connate at the base, or united to each other there, where broadest, and gradually tapering to a sharp point; from three to eight inches long, narrow, oblong, rough above, woolly beneath, margin serrulate; upper leaves often sessile, not united; inflorescence in a dense, depressed, terminal corymb, formed by smaller fastigiate corymbs; peduncles hairy, as well as the perianth or common calyx, each enclosing from twelve to fifteen florets;

scales lanceolate, acute; florets tubulose, white; five black anthers united into a tube; seeds black, oblong.

Properties.—The whole plant is exceedingly bitter to the taste, but possesses little smell. According to Dr. Andrew Anderson, it contains a free acid, a small quantity of tannin, a bitter extractive matter, a gummy matter, resin, nitrogen, lime (probably in the state of acetate), gallic acid, and a resiniform matter, soluble in water and alcohol, containing a bitter principle. Mr. J. Scattergood has obtained from this plant a salifiable base, which forms, with sulphuric acid, tasteless prismatic crystals, and which he has denominated EUPATORIA.

Boneset possesses very active remedial properties, according to the dose in which it is administered. It has been given in intermittent fever with complete success, in either infusion, decoction, or powder. Dr. A. Anderson states that it was used instead of the Peruvian bark in nearly every case of intermittents that occurred in the almshouse of this city in 1813, and that it proved uniformly successful. Drs. Bard and Hosack speak very highly of this plant as a diaphoretic in the cure of yellow fever. The extract or the dried and pulverized leaves, united with aromatics, also form a very good tonic in dyspepsia.

This valuable plant, which has been for a great while employed in domestic practice, has been almost as long despised by physicians. In thoracic inflammation, catarrh, intermittent, remittent, and continued fever, it is, in reality, not a pigmy, but a giant. It combines diaphoretic, nauseant, laxative, and expectorant properties, and may be given with perfect safety in states of the system where stimulating articles of the same class would be wholly inadmissible. Given in moderate doses frequently repeated, and continued for a length of time, it will not unfrequently subdue severe cases without the aid of any other medicine. In those anomalous cases of fever attended with dry, purplish, crisped tongue, and poising as it were between active inflammation and congestion, where it is frequently hazardous to give stimulating or drastic evacuants of any kind, this article seems truly invaluable; and its exhibition is almost uniformly attended with marked benefit. A warm infusion, drank previous to taking an emetic, assists its operation.

It is very extensively used by the negroes of the southern plantations as a tonic and febrifuge, and is there also repeatedly prescribed with advantage in rheumatism and dropsy. Dr. Rush recommended it in the influenza which prevailed at the north, as a valuable agent in the cure. From its action on the capillaries, this article is likewise beneficial in chronic cutaneous affections.

Employment.—The leaves of the plant may be given in powder, infusion, or cold decoction, according to the indications required. Of the leaves, as a tonic, from ten to twelve grains may be given; as an emetic, or to assist the action of other emetics, the warm infusion must be taken. The cold infusion or decoction may likewise be administered as a tonic.

NO. 270.—PURPLE BONESET.

Common Names.—Queen of the Meadow, Gravel-root, &c.

E. PURPUREUM.—Leaves in fours or fives, petioled, lance-ovate, serrate, rugose-veined, roughish; stem hollow.

Description.—This species of *Eupatorium* is, like the preceding, a perennial herbaceous plant. Its stem is hollow, of a purple color, five or six feet high, and furnished with ovate-lanceolate, serrate, rugosely-veined, slightly-scabrous leaves, which are petiolate, and placed four or five together in the form of whorls. The flowers are purple, consisting of numerous florets contained in an 8-leaved calyx. It grows in swamps and other low grounds, from Canada to Virginia, and flowers in August and September. The root is the officinal portion.

Properties and Uses.—The root of this plant possesses diuretic, lithontriptic, nephritic, nervine, and tonic properties, and the infusion is drank freely in gravel, stone in the bladder, and all obstructions of the kidneys and urinary passages.

GENUS LACTUCA.—Calyx imbricate, cylindric, with the margin of the scales membranaceous; receptacle naked; egret simple, stiped; seed smooth.

NO. 271.—WILD LETTUCE.

Common Names.—Trumpet-weed, &c.

L. ELONGATA.—Leaves smooth beneath, lower ones runcinate, entire, clasping; lowest ones toothed, highest ones lanceolate; flowers corymb-panicled.

Synonym.—*Lactuca longifolia*, Michaux.

Description.—This indigenous species of lettuce is biennial, with a stem from three to six feet in height, and leaves of which the lower are runcinate, entire, and clasping, the lowest toothed, and the highest lanceolate. They are all smooth on their under surface. The flowers are in corymbose panicles, small, and of a pale-yellow color. The stem and leaves yield, when wounded, a milky juice in which the virtues of the plant reside. The wild lettuce grows in all latitudes of the United States, from Canada to the Carolinas. It is found in woods, along roads, and in fertile soils, and flowers in June and July.

Properties.—This species has been introduced into the materia medica as a substitute for the *Lactuca virosa*, or strong-scented lettuce, of Europe, which it resembles in its medical properties. It is a useful and powerful anodyne, diaphoretic, laxative, and diuretic, promoting the secretions from the skin and kidneys, and is administered in dropsy and ascites. "In dropsies of long standing," says Dr. E. Smith, "proceeding from visceral obstructions, it has been given to the extent of half an ounce a day. It is said to agree with the stomach, to quench thirst, to be gently laxative, powerfully diuretic, and somewhat diaphoretic. Plentiful dilution is allowed during its operation, which is accelerated by combining it with cohosh-tea."

Employment.—The inspissated juice or extract is generally preferred, in doses of from five to fifteen grains.

NO. 272.—GARDEN-LETTUCE.

L. SATIVA.—Leaves roundish; cauline ones cordate; stem corymbed. Several varieties of this species are cultivated.

Description.—The original country of the garden-lettuce is unknown. By some it is supposed to be an accidental variety sprung from some other species of *Lactuca.* It was cultivated in England, by Turner, in 1562, and probably much earlier. The leaves are large, milky, frequently wrinkled, usually pale green, but varying much in form and color in the different varieties. The radical leaves are roundish, and toothed at the margin; those of the stem are obovate or heart-shaped. The stem is round, leafy, two or three feet high, and corymbiform at the top, with numerous bright-yellow flowers, which appear in July.

Properties.—This plant is valuable as an article of diet, and contains, like the other species, a quantity of milky juice, having, when inspissated, the dark color, and in some degree the odor and taste of opium, and may be procured from it in sufficient quantity to repay the labor. The inspissated juice was found by Professor Pfaff to consist of 41 parts soluble in water, 7 of wax, 6 of resin, 18 of caoutchouc, and 8 of loss = 80. It contains a free acid, analogous to the oxalic, though different, and a narcotic principle, but no morphia. Eaten in salad, or cooked, it acts as a good refrigerant, diluent, sedative, and anodyne; it is also a topical sedative, and a useful article of diet in many diseases, as hypochondria, satyriasis, nymphomania, consumption, nervous complaints, &c., causing a propensity to sleep. It has likewise been employed with advantage in allaying the pain of chronic rheumatism and colic, in checking the frequent stools attending diarrhœa, and in relieving coughs.

The LACTUCARIUM, or *lettuce-opium,* is made from the juice of this plant in the same manner as opium is from the poppy. As found in commerce, it occurs in roundish, hard masses, about the size of the fist, of a brown color, with an opiate smell, and a bitter taste. It possesses anodyne and sedative qualities, and is employed in cases where opium would be objectionable, either from peculiarities on the part of the patient, or the nature of the disease. The dose is from three to five grains.

The soporific effects of lettuce have long been noticed and familiarly known. The poets feigned Venus, after the death of Adonis, to have sought a bed of lettuces to soothe her grief. And Galen, who, when old, suffered much from watchfulness, found great relief from eating a lettuce at night; a practice which is commonly resorted to, with the same effect, by wakeful persons in the present day.

Employment.—The inspissated extract is given, in doses of from ten to twenty grains.

GENUS LEONTODON.—Calyx double, imbricate, with flexible leaflets; receptacle naked; egret stiped.

NO. 273.—DANDELION.

Common Names.—Monkshead, &c.

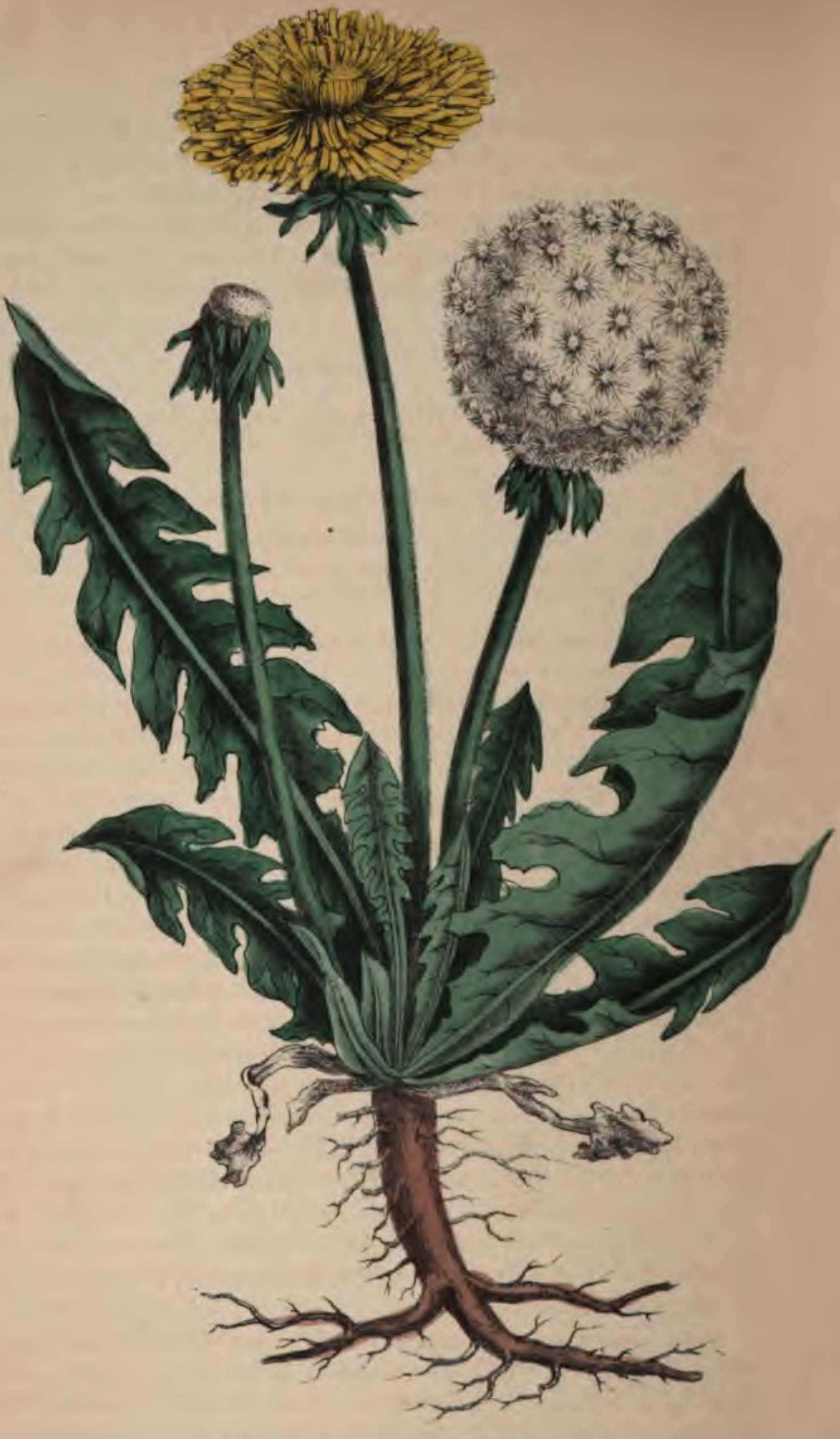
L. TARAXACUM.—Outer calyx reflexed; scape 1-flowered; leaves runcinate, with toothed divisions.

Description.—The term *Leontodon* is derived from λεων, a lion, and οδους, tooth, and is so called from the indentments of the leaves, which have been fancifully compared to the jaw or teeth of a lion. Linnæus bestowed this name upon the genus, in preference to the compound one of *Dens-Leonis*, which had been given by Tournefort; and *Taraxacum* is said to be an Arabian corruption of τρωξιμον, *edule*, one of the names of Ceres. From the receptacle looking báld, after the flowers and seeds are gone, it is sometimes called monkshead: while by the French it is termed *pissenlit*, from its diuretic properties, and it has obtained in England and this country a vulgar designation expressive of the same powers. The English name dandelion appears to be a corruption of *dent de lion*.

The dandelion is a perennial herbaceous plant, with a fusiform root. The leaves are long, pinnatifid, runcinate, with toothed divisions, smooth, and of a dark-green color. The flower-stem rises six or eight inches high, or more, from the midst of the leaves; it is naked, erect, simple, smooth, and hollow, and terminates by a large yellow flower, which closes at night and expands in the morning. The calyx is double, smooth, with the outer scales bent downward; the florets are ligulate, numerous, and toothed at their extremities; the receptacle is punctate and convex. The seed-down is stipitate, and at maturity is so light and feathery as to be easily blown away with the least breath of air, with the seeds attached, and is thus transplanted from one soil to another.

The plant has a milky, bitterish juice, diffused throughout all its parts, which exudes when it is wounded. When very young, the leaves are blanched, or beautifully white. A full-grown and fresh root is frequently more than a foot long, and as thick as the little finger, slender, round, and tapering, full of a milky, bitterish juice, of a brown color outwardly, but white within, having a cord running through the centre. When dry, it is much wrinkled, shrunk, and brittle, and on being broken presents a shining, resinous fracture. It has a sweetish-bitter, herbaceous taste, and has been found, on analysis, to contain caoutchouc, saline matters, resin, and a free acid. It yields its medical properties to boiling water.

Properties.—The dandelion is diuretic, tonic, and aperient, and has a direct action upon the liver and kidneys, exciting them, when languid, to action. It is most applicable to hepatic diseases, and derangement of the digestive organs generally. In chronic inflammation of the liver and spleen, in cases of deficient biliary secretions, and in dropsical affections of the ab-



Leontodon Taraxacum.

dominal viscera, it is capable of being very beneficial, if properly applied; yet it is an article which appears to possess more activity when combined with other proper agents than when administered alone.

Employment.—The inspissated extract is the most efficacious form, the doses of which are from ten grains to half a dram. It enters into our *Hepatic Pill*, which forms one of our most valuable compounds in diseases of the liver.

GENUS LIATRIS.—Calyx imbricate, oblong; anthers entire at the base; seeds hairy, obconic; egret permanent, plumose, colored; receptacle naked.

NO. 274.—BUTTON SNAKE-ROOT.

Common Names.—Gay Feather, Corn Snake-root. &c.

L. SPICATA.—Stem simple, tall; leaves linear, glabrous, ciliate at the base, nerved and punctate; spike very long; flowers sessile; scales of the calyx linear-oblong, obtuse, close-pressed.

Synonyms.—*Liatris macrostachya*, Michaux; *Anonymous graminifolius*, Walter; *Serrulata spicata*, Linnæus.

Description.—This is an indigenous plant, growing plentifully on the western prairies, and is cultivated extensively in all our medical gardens. It is called corn snake-root because its leaf, like young corn, has prickly points all along its edges, and a larger one at the extreme point of its leaf; it sends up a round stalk sometimes two feet high, with the leaves scattering along upon it; and on the top grows a ball as large as a musket-bullet, covered thick with white bloom. The root consists of a knob an inch long, the bottom being the largest, and appears as if decayed or rotted off. There are small roots shooting from this knob. The taste of the root resembles that of the black snake-root, but is not pungent, and is infinitely stronger.

Properties.—The button snake-root in large doses is a stimulant diuretic; in small ones, tonic. It is a very useful adjunct in the treatment of dropsy, scarcely ever failing to increase to a considerable degree the urinary discharge, at the same time giving tone to the digestive organs. It rarely disagrees with the stomach. We have also found it beneficial in chronic inflammation of the urinary organs, attended with mucous discharges. For these purposes, or as a diuretic, it is best given in decoction, made by boiling an ounce of the root in a pint and a half of water until reduced to a pint: this is to be drank in the course of twenty-four hours. We sometimes combine it with prince's pine.

Many authors seem to agree in the opinion of its efficacy in the cure of the bites of venomous reptiles, for which it is said to be infallible. The root need only be chewed and laid on the wound, and a little of it swallowed. If this can be done when the bite is first inflicted, it prevents the parts from swelling; and it is said generally to effect, first or last, a speedy cure.

Pursh informs us that the *Liatris scariosa* and *L. squarrosa* are known in the southern states by the name of *rattlesnake's master*, and that their roots are employed to cure the bite of the rattlesnake, being bruised and applied directly to the wound, while their decoction in milk is taken internally.

Employment.—As a stimulant tonic, we prefer to give it in the form of spirituous or wine tincture, prepared by adding two ounces of the bruised root to a pint of diluted alcohol or Teneriffe wine, the dose of which is a tablespoonful three times a day.

Order II. Polygamia Superflua.—Bearing such compound flowers as have the florets of the disk perfect, and those of the ray only pistillate.

GENUS ACHILLEA.—Calyx imbricate, ovate, unequal; egret none; florets of the ray 5 to 10, roundish, dilated; flowers corymbed.

NO. 275.—YARROW.

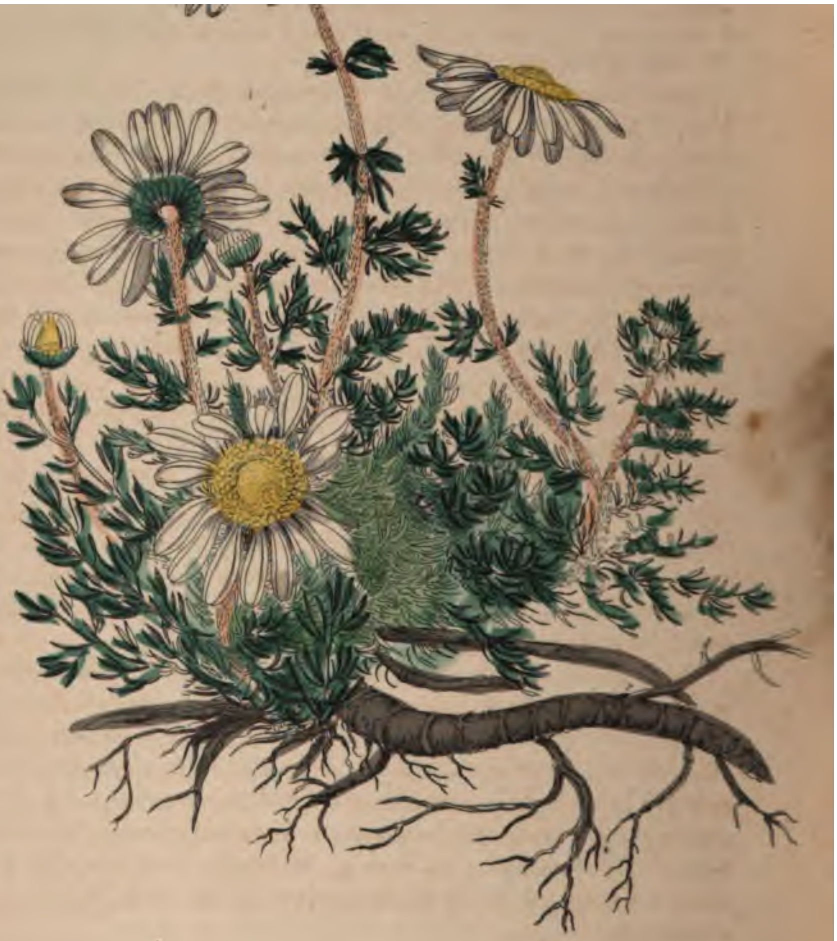
Common Names.—Milfoil, Thousand-leaf, &c.

A. MILLEFOLIUM.—Leaves 2-pinnatifid, downy; the divisions linear, toothed, mucronate; calyx and stem furrowed.

Description.—This is a perennial plant, rising to the height of from twelve to eighteen inches, distinguished by its double-winged leaves and leaflets, so minutely divided and subdivided as seemingly to have the divisions incapable of being numbered. The flowers appear from June till September; they are white or rose-colored, and form a thick, flat bunch. The whole herb has an agreeable pungent taste and smell, and is medicinal; it should be gathered when in bloom. This plant will bear, when cultivated, heat or cold without damage, and grow in any soil or situation. A writer, in mentioning the fact that our warm summers render the medical plants of this country more efficacious, adduces the circumstance of the yarrow being exported to Europe, on account of its possessing much stronger remedial properties than the same species grown there. It is said that in some parts of Sweden this plant is employed as a substitute for hops in the manufacture of beer, to make it more intoxicating.

Properties.—The infusion is used both externally and internally in piles, and as a wash for sores. It is also employed in the vomiting of blood from the stomach or lungs, and in dysentery, diarrhœa, and nervous hypochondria. The powder is recommended in fever and ague, and the hot infusion for colic. The decoction opens the pores, removes obstructions, and has a beneficial effect in passive hemorrhages, leucorrhœa, &c. It is likewise used for the involuntary discharge of urine in children.

Employment.—Yarrow is chiefly employed in the forms of infusion and extract. The infusion is made by adding an ounce of the herb to a pint of boiling water, and straining: dose, a wineglassful. It is excellent for colds. An essential oil is obtained by distillation, which is given in doses of ten drops. Twenty grains of the powder is a dose, and six of the extract.



GENUS ANTHEMIS.—Calyx hemispherical; scales with scarious margins, nearly equal; egret none, or a membranous margin; florets of the ray more than 5; receptacle-chaffs flat, with a rigid, acuminate apex; seed crowned with a membranous border or egret.

NO. 276.—MAYWEED.

Common Names.—Wild Chamomile, Dog's Fennel, &c.

A. COTULA.—Receptacle conic, chaff bristly, seed naked; leaves 2-pinnate; leaflets subulate, 3-parted.

Description.—This plant is indigenous, and found all over the United States from Maine to Louisiana, but confined almost everywhere to open fields. It is never found in woods, but delights in the sun, and abounds by roadsides, in stony places and old fields, or near towns and villages. It is scarce in mountains, but prefers limestone soils and plains. It is extremely abundant on the banks of the Ohio, and throughout the western states, covering neglected fields. The root is annual, crooked, and fibrous; the stem and leaves are covered with short, depressed, woolly hairs: the stem is from one to two feet high, erect, and very much branched, irregularly angled and striated. The leaves are alternate, sessile, flat, doubly pinnatifid, or almost pinnate, carinate beneath in the middle; pinnules flat, unequal, linear, acute, entire or trifid.

Properties.—The properties of mayweed are similar to those of chamomile, but weaker and less pleasant to the taste, and may be substituted for the latter. It is an active tonic, sudorific, stimulant, anodyne, emetic, and repellant, and is extensively used throughout the country for rheumatism, hysterics, epilepsy, dropsy, asthma, scrofula, and other complaints, both internally and externally.

Employment.—The external use in warm baths or fomentations is proper in rheumatism, hysteric fits, suffocations, hemorrhoidal swellings, pains, and contusions. The decoction and infusion of the flowering tops are given for colds, fevers, rheumatism, asthma, &c.; but a single cupful, if too strong, may produce vomiting, and even a weak infusion nauseates the stomach. It always acts as a sudorific, producing copious perspiration, and is often beneficial as an auxiliary to an emetic. In small doses it is a gentle tonic and diaphoretic, and is useful whenever it is necessary to promote perspiration in fevers.

NO. 277.—CHAMOMILE.

Common Names.—Roman Chamomile, &c.

A. NOBILIS.—Leaves doubly pinnate; leaflets 3-parted, linear, subulate, a little downy.

Description.—Chamomile is a perennial plant, indigenous to the south of England, but cultivated in our gardens for medicinal purposes. It rises nearly a foot in height. The stem is slender, trailing, hairy, and of a pale green. The flowers are compound, yellow in the centre, in the ray white, standing singly, terminal; the flowers in the ray are usually eighteen, strapshaped, ending in three sharp teeth. The blossoms appear in July and August.

Properties.—Chamomile-flowers have a strong, not ungrateful, aromatic smell, and a very bitter, nauseous taste. Their active constituents are a bitter extractive and an essential oil. To the latter are to be ascribed their anti-spasmodic, carminative, and diaphoretic effects; to the former their influence in promoting digestion. They yield their properties to both water and alcohol. They enter into one of our pectoral preparations, also into our *Restorative Cordial*, and are a good tonic.

The flowers are useful in pulmonary consumption, hysteria, spasmodic and flatulent colics, in the vomiting of puerperal women, in gout, and in intermittent and typhus fevers. There is no bitter more proper to be given in the derangement of the stomach and digestive organs. Dr. Pitcairn was of the opinion that their powers in intermittents were equal to those of the Peruvian bark. Hoffman also seems to have thought them very effectual, and at the same time a safer remedy than the bark. Boiled down with milk, and applied to the neck, they have been found to cure a painful glandular swelling, proceeding from cold.

Employment.—The flowers may be given in warm infusion or tea, to promote the action of emetics; the tea is also good in pulmonary complaints. Employed in wine tincture, they are useful in cases of debility; and, boiled in vinegar, they may be applied as a fomentation in painful glandular swellings.

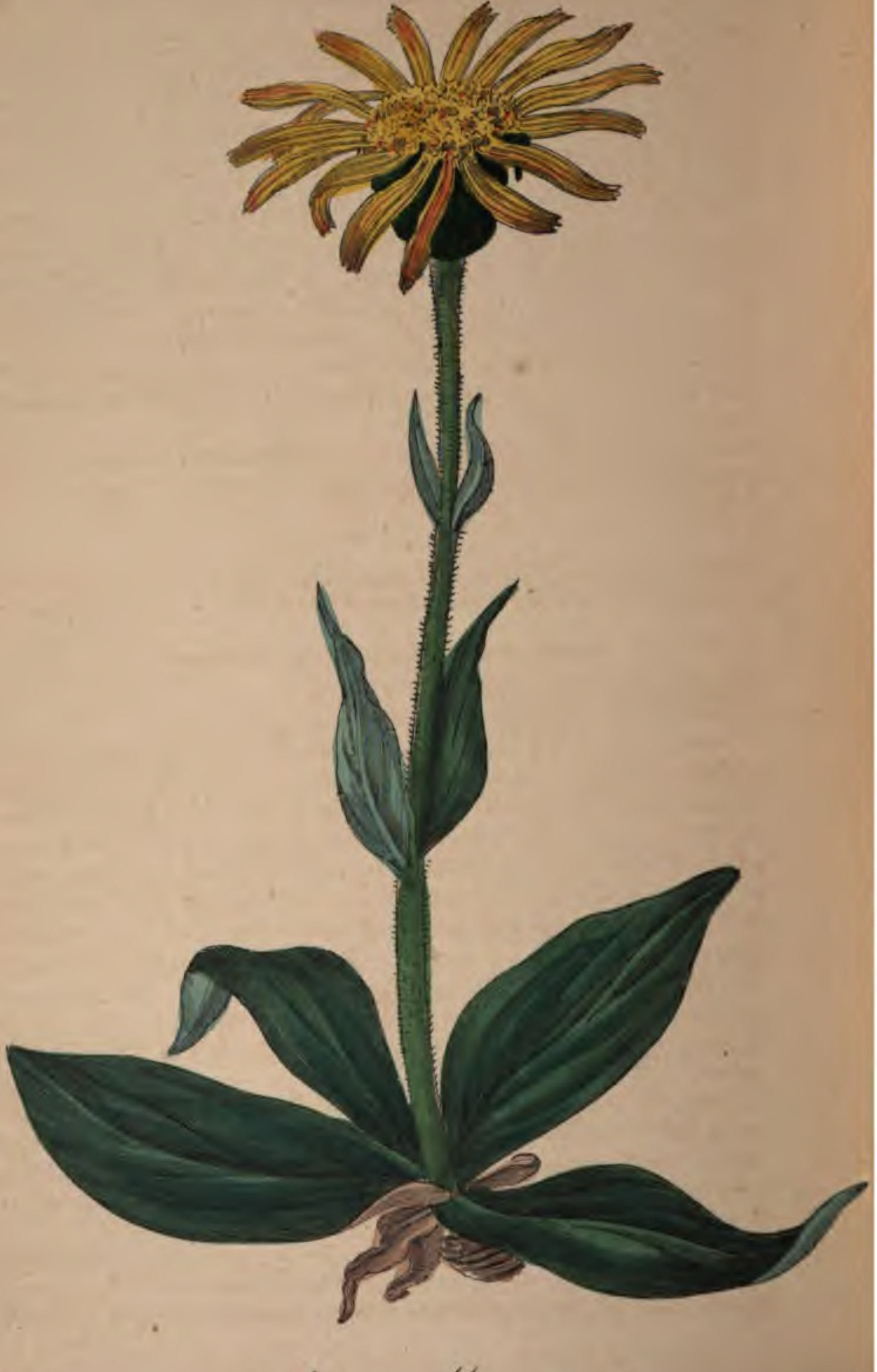
NO. 278.—PELLITORY OF SPAIN.

Common Names.—Spanish Chamomile, &c.

A. PYRETHRUM.—Stems simple, 1-flowered, decumbent; leaves bipinnated; segments linear, pointed.

Description.—Pellitory of Spain is a perennial plant, a native of the Levant, Syria, Arabia, Barbary, and the south of Europe. It has long been celebrated as a medicinal agent; and merits a place in our collections, on account of the beauty of both the foliage and flowers. It is a very rare plant in England, notwithstanding it was cultivated there, by Lobel, as long since as 1570. Parkinson, it appears, grew it; as he observes that the roots of the cultivated plants were much larger than those of the wild ones: he also says that it was too tender to endure the winters of England; and to the latter cause, as well as to the difficulty of propagating it (for it does not ripen its seeds in that country), its present scarcity has been attributed.

The root is long, tapering, about the thickness of a finger, which runs down a foot or more into the ground, with a brownish cuticle, and sending off several small fibres. From the root proceed several procumbent stems, about a foot in height, round, hairy, commonly unifloral, and seldom branching. The leaves are doubly pinnate, with narrow linear segments, of a pale-green color. The flowers appear in June and July; they are large, terminal, solitary, with the florets of the disk yellow, and those of the radius white on



Arnica Montana

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the upper side, and of a purplish color underneath. The florets resemble those of *Anthemis nobilis;* in the centre, or disk, they are united; those of the circumference, margin, or radius, are pistilline, that is, have no stamens. at least in perfect condition; and hence, as the flowers of the disk are sufficient to perpetuate the species, the extra pistilliferous ones of the ray were said by Linnæus to be *superfluous.*

Properties and Uses.—The root of this plant is principally employed to promote the salival flux, as a masticatory: by this means it often relieves the toothache, lethargic complaints, &c. In consequence of the immense flow of saliva that it is capable of producing, inflammations and congestions of the neighboring parts are relieved. Hence it has been found useful, when chewed, in some kinds of headache, chronic ophthalmia, and rheumatic affections of the face, and, by its direct stimulus, in paralysis of the tongue and muscles of the throat.

Adulterations.—This drug is often adulterated with the roots of *Achillea plarmica* and *Chrysanthemum frutescens.*

GENUS ARNICA.—Calyx hemispherical; leaflets equal, longer than the disk; receptacle naked; egret simple, hairy; florets of the ray yellow, often destitute of anthers.

NO. 279.—MOUNTAIN ARNICA.

Common Names.—Leopard's-bane, &c.

A. MONTANA.—Leaves ovate, entire; stem-leaves opposite, in pairs.

Description.—This is a perennial, herbaceous plant, having a woody, brownish, horizontal root, ending abruptly, and sending forth numerous slender fibres of the same color. The stem is about a foot high, cylindrical, striated, hairy, and terminating in one, two, or three peduncles, each bearing a flower. The radical leaves are ovate, entire, ciliated, and obtuse; those of the stem, which usually consist of two opposite pairs, are lance-shaped. Both are of a bright-green color, and somewhat pubescent on their upper surface. The flowers are very large, and of a fine orange-yellow color. The calyx is greenish, imbricated, with lanceolate scales. The ray consists of about fourteen ligulate florets, twice as long as the calyx, striated, three-toothed, and hairy at the base; the disk, of tubular florets, with a five-lobed margin.

This plant is a native of the mountainous districts of Europe and Siberia, and is found, according to Nuttall, in the northern regious of this continent, west of the Mississippi. It has been introduced into England, and is cultivated in this country. The flowers, leaves, and root, have been employed in medicine; but the flowers are usually preferred.

Properties.—The whole plant, when fresh, has a strong, disagreeable odor, which is apt to excite sneezing, and is diminished by desiccation; the taste is acrid, bitterish, and durable. Water extracts its virtues. Chevalier and Lassaigne discovered in the flowers gallic acid, gum, albumen, yellow coloring matter, an odorous resin, and a bitter principle which they considered identical with that discovered by them in the seeds of the *Cytisus laburnum*, and hence named CYTISIN. This substance is yellow, of a bitter and nauseous taste, deliquescent, readily soluble in water and diluted alcohol, and insoluble in ether. In the dose of five grains it is powerfully emetic and cathartic, and is supposed to be the active principle of the plant. The flowers are also said to contain a small proportion of a blue volatile oil. According to Pfaff, the root contains volatile oil, an acrid resin, extractive, gum, and lignin.

Leopard's-bane is a stimulant, directed with peculiar energy to the brain and whole nervous system, as manifested by the headache, spasmodic contraction of the limbs, and difficulty of respiration, which result from its use. It also acts as an irritant to the stomach and bowels, often producing an emetic and cathartic effect, and is said to be diuretic, diaphoretic, and emmenagogue. It is much used by the Germans, who prescribe the flowers and root with advantage in amaurosis, paralysis, and other nervous affections. It is said to prove serviceable in that disordered condition which succeeds concussion of the brain from falls, blows, &c. It has also been recommended in intermittent fever, dysentery, diarrhœa, nephritis, gout, rheumatism, dropsy, chlorosis, and various other complaints.

The tincture of arnica is highly extolled by the homœopathists for the cure of inflammations and wounds, for which, applied freely, it is said to be very efficacious.

Employment.—It is best given in substance or infusion. The dose of the powder is from five to ten grains, frequently repeated. The infusion may be prepared by digesting an ounce in a pint of water, of which from one half to a whole fluid ounce may be given every two or three hours. It should always be strained through linen, in order to separate the fine fibres, which might otherwise irritate the throat. The poisonous properties of the plant are said to be best counteracted by the free use of vinegar or other dilute vegetable acid.

GENUS ARTEMISIA.—Calyx imbricate, ovate, with the scales rounded, converging; ray-florets subulate; egret none; receptacle somewhat villose or naked; flowers mostly rounded.

NO. 280.—SOUTHERN-WOOD.

Common Names.—Old Man, &c.

A. ABROTANUM.—Stem straight; lower leaves bipinnate, upper ones hair-form, pinnate; calyx pubescent, hemispheric.

Description.—This plant is a native of the south of Europe, but has been extensively introduced into this country as a popular domestic remedy. The stem rises three feet high, with vertical branches; the leaves are numerous, irregularly bipinnated, long, narrow, sharp, and bristly; the flowers are very minute, of a grayish color, in close terminal spikes, and mixed with leaves. It is perennial, and chiefly cultivated in gardens.

Properties.—Southern-wood is stimulant, detergent, sudorific, discutient, and antiseptic. The powder has been given to open obstructions of the viscera, and to destroy worms (this being a species of the wormwood). It is also applied externally, in ointments and fomentations, for cutaneous eruptions and hard tumors, preventing the hair from falling out, and causing it to grow.

Employment.—For worms, from one to two teaspoonfuls of the powder may be given in molasses morning and evening. It is also employed in decoction and infusion.

NO. 281.—WORMWOOD.

Common Names.—Common Wormwood, &c.

A. ABSYNTHIUM.—Stem branching, panicled; leaves hoary, radical ones triply pinnatifid; divisions lanceolate, toothed, obtuse; cauline ones 2-pinnatifid or pinnatifid; divisions lanceolate, acutish, floral ones undivided, lanceolate.

Description.—Wormwood is a perennial plant, a native of Europe, but cultivated in our gardens. It is found growing in stony and wild places on both continents, flowering in July and August. The stem is herbaceous, covered with a whitish down; the leaves are tripinnatifid, whitish on both sides; the flowers are flosculous, small, yellowish, forming a long and pyramidal panicle: the florets of the centre are hermaphrodite, fertile, 5-dentate; those of the circumference female, bidentate, without pappus.

Culpepper, an old English author, quaintly observes: "I shall not describe wormwood; for any boy, who knows how to eat an egg, can tell you what it is!"

Properties.—This plant has a strong, pungent smell, and a bitter and aromatic taste. According to M. Braconnot, it is composed of a very bitter matter, containing nitrogen, soluble in cold water, but slightly so in alcohol, forming 18 parts; a matter containing nitrogen, and almost insipid, 8; a resiniform substance, extremely bitter, soluble in alcohol and boiling water, from which it precipitates on cooling, 1·4; a green volatile oil, 0·9; chlorophyllin, 3; albumen, 7·5; fecula, 1; salts of potassa, 7·5; lignous fibre and water, 552. Cold water and alcohol dissolve its active principles.

Wormwood is possessed of very valuable stimulant and tonic properties. If administered in too large doses, it is apt to create heat in the epigastric region, thirst, and other symptoms of irritation of the stomach; but in moderate doses it promotes appetite and digestion, quickens the circulation, and imparts a strengthening influence to the whole system. It is given in all cases requiring the administration of tonics—in dyspepsia and other atonic states of the intestinal canal, in cases of amenorrhœa, chronic leucorrhœa, and in obstinate diarrhœa, depending upon debility of the membranes of the intestines. It is often administered in intermittent fevers with complete success. It is likewise given as an anthelmintic. The herb is very useful in fomentations in bruises and inflammations in general. The oil enters into the *Green* or *Rheumatic Oil* of our pharmacopœia, which is a valuable application in rheumatism.

Mr. Whitmore stated to the members of the London Medical Society that he had, for many years, been in the habit of using wormwood in nervous affections. He had found it particularly beneficial in cases of epilepsy, some of the most obstinate cases of that affection having yielded to its employment. He is in the habit of giving the powder in dram doses, two or three times a day, and has only known it to fail in one or two instances. He strongly recommended the members to give it a trial, and to commence with smaller quantities, if the doses were considered too large. He gave it mixed with cold water. He had also found it extremely serviceable in hysteria, severe neuralgia, and chorea.

Employment.—The dose of the powder is from one scruple to a dram. The infusion is prepared by adding from half an ounce to an ounce of the herb to a pint of cold water. Externally, as a fomentation.

GENUS ASTER.—Calyx imbricate, the inferior scales generally spreading; egret simple, pilose; receptacle often deep-pitted; florets of the ray more than 10, except in a few species; color purple or white, never yellow.

NO. 282.—COCASH.

Common Names.—Meadow-Scabish, Frostweed, Red-stalked Aster, &c.

A. PUNICEUS.—Leaves clasping, lanceolate, serrate, roughish; branches panicled; calyx lax, exceeding the disk, the leaflets linear-lanceolate, sub-equal; stem hispid.

Description.—The root of this plant is perennial and fibrous. The stem is erect, easily broken, two or three feet high, of a reddish color, covered with short, stiff bristles, and thickly branched at the top. The leaves are clasping, rough on the margin and upper surface, tapering at both ends, sharp at the point, and bordered with remote teeth. The stem-leaves are five or six inches long; those of the branches are much shorter, and narrow in proportion. The flowers are of a light blue, and grow in spreading clusters at the tops of the stems and branches.

The cocash grows in wet grounds, and by the edges of small streams. The flowers make their appearance about the first of September, and remain in bloom until late in the autumn. The lower or radical leaves, especially about springs, and warm, sheltered places, continue green all winter. They have an agreeable, aromatic taste, with some astringency and bitterness; the leaves of the stem are endowed with similar properties, but in an inferior degree. The root possesses little or no medical virtue, with the exception of the long fibres which it sends off during the summer: these acquire the size of a pipe-stem, and have a pungent or aromatic taste. They are frequently collected in the winter or spring, together with the radical leaves, and used for medicinal purposes

Properties and Uses.—Cocash is an agreeable stimulant, and promotes perspiration. It is perfectly harmless, and may be taken without any particular regard to quantity. The infusion, prepared by steeping the fresh, bruised roots and leaves in hot water, is useful in rheumatism, sudden colds, nervous debility, dizziness, headache, pains of the stomach and bowels, and irregularity of the menstrual discharges. The Canadian Indians employ the cocash in rheumatism, and consider it an excellent remedy. They mix the infusion with a small portion of spirit, with a view to its preservation, and use it as occasion requires.

GENUS CHRYSANTHEMUM.—Calyx hemispherical, imbricate, with the scales membranous at the margin; egret none, or a narrow margin.

NO. 283.—OX-EYE DAISY.

Common Names.—White-weed, White Daisy, &c.

C. LEUCANTHEMUM.—Leaves clasping, lanceolate, serrate, cut-toothed at the base; stem erect, branching.

Description.—This is an exotic plant, common to the fields of Europe, and was probably introduced with the seeds of some of our meadow-grasses. It grows in old fields and by roadsides, and is exceedingly hard to subdue. It bears a large white blossom, from twelve to twenty inches above the ground, and is almost too well known to need description, but it possesses many valuable qualities in the treatment of some diseases.

Properties and Uses.—The ox-eye daisy is diuretic and vulnerary, and the flowers are used in infusion for dropsy, asthma, tinea, &c. They promote perspiration, taken on going to bed, and are consequently useful in fevers and colds.

NO. 284.—FEVERFEW.

Common Names.—Feather-few, &c.

C. PARTHENIUM.—Leaves petioled, compound, flat; leaflets ovate, gashed; peduncles branching, corymbed; stem erect.

Synonyms.—*Pyrethrum parthenium*, Wildenow; *Matricaria parthenium*, Linnæus.

Description.—This is an exotic, a native of the south of Europe, but has been naturalized here, and is generally found growing along roadsides and in neglected fields. The garden feverfew *(Chrysanthemum coronarium)* is extensively grown in our medical gardens. It blooms in June and July. The root is short and fibrous, with a round, branching stem, from six inches to a foot in height. The leaves are numerous, of a yellowish-green color, and deeply cut into lobes or divisions, which are bordered with acute teeth. Each of the branches is terminated by a single flower, which consists of a white border, and a yellow centre or disk.

Properties.—The leaves and flowers of both the wild and garden feverfew have the same virtues. They are warm, aperient, carminative, bitter, and strengthen the stomach, expel wind, promote the menses, destroy worms, and are beneficial in hysterical complaints and lowness of spirits. They have a fragrant smell, and a bitter and aromatic taste, with a slight degree of pungency. The warm tea is an excellent remedy in colds, sudden attacks of disease, hysteric complaints, irregularity of the monthly discharges, obstruction of urine, flatulency, loss of appetite, dizziness, and unpleasant sensations of the head.

Employment.—The tea should be prepared by steeping the leaves and flowers, either recent or dried, in hot water. Boiling diminishes some of its active properties. It is perfectly harmless, and may be taken in almost any quantity. The green herb, in the form of a poultice, is a valuable external application in severe pain or swelling of the bowels.

For a decoction, pour two quarts of boiling water on two handfuls of the leaves, of which a teacupful may be taken three or four times a day, in order to promote the menstrual discharges; the same may be taken in colds and fevers. In hysterical complaints, a teaspoonful of the *Compound Spirits of Lavender* may be added to the above decoction.

GENUS ERIGERON.—Calyx imbricate, sub-hemispherical; egret pilose, double; outer egret minute and chaffy; florets of the ray linear, very narrow, numerous.

NO. 285.—FLEABANE.

Common Names.—Canada Fleabane, Prideweed, Blood-stanch, Mare's-tail, Colt's-tail, Fireweed, &c.

E. CANADENSE.—Stem hispid, panicled; leaves lance-linear, ciliate; calyx cylindric; rays crowded, short.

Description.—Fleabane is an indigenous annual plant, which grows from two to six feet in height, covered with stiff hairs, and divided into numerous branches. The leaves are linear-lanceolate, and edged with hairs; those at the root are dentate. The flowers are very small, numerous, white, and arranged in terminal panicles. They differ from those of the other species of *Erigeron* in having an oblong calyx, the rays very minute and more numerous than the florets of the disk, and the seed-down simple.

This plant grows very freely throughout all Canada and the northern and middle sections of the United States, and has become naturalized in many parts of Europe. It abounds in neglected fields, and blooms in July and August. The plant, all parts of which are medicinal, should be collected while in flower. The leaves and flowers are said to possess its peculiar virtues in the greatest perfection.

Properties.—This species of *Erigeron* has an agreeable odor, and a bitterish, acrid, somewhat astringent taste. Among its constituents, according to Dr. De Puy, are bitter extractive, tannin, gallic acid, and volatile oil.

Both alcohol and water extract its virtues. Its acrimony is diminished by decoction, probably in consequence of the escape of the oil. It is stimulant, tonic, and diuretic, and possesses high reputation as a remedy in dysentery. Mattson cites the case of a gentleman who was attacked with the cholera while travelling in a stagecoach, and who, by chewing the leaves and swallowing the juice of the herb, succeeded in checking the discharges without difficulty.

Employment.—For dysentery, the herb is steeped in hot water, and a teacupful administered every hour or two, until a cure is effected. The plant possesses a combination of properties which renders it particularly useful in this disease. It is also a valuable medicine in colic, and generally affords speedy relief. For this purpose a teacupful of the infusion may be given every fifteen or thirty minutes. In obstinate cases it is sometimes necessary to give an injection of the same. The dose of the powder is from twenty grains to a dram. The oil is an infallible remedy in hemorrhage, in doses of from five to ten drops.

NO. 286.—SWEET SCABIOUS.

E. HETEROPHYLLUM.—Radical leaves round-ovate, deeply-toothed, petioled; cauline ones lanceolate, acute, serrate in the middle; corymb terminal.

Synonym.—*Aster annuus*, Linnæus.

Description.—This is a biennial herbaceous plant, belonging to both North America and Europe. It has a branching root, from which proceed several erect, roundish, striated, pubescent stems, much divided near the top, and rising two or three feet in height. The lower leaves are ovate, acute, deeply toothed, and supported upon long, winged foot-stalks; the upper are lanceolate, acute, deeply serrate in the middle, and sessile; the floral leaves are lanceolate and entire: all, except those from the root, are ciliate at the base. The flowers are in terminal corymbs; the florets of the disk are yellow, those of the ray numerous, very slender, and of a white, pale-blue, or pale-purple color. The flowering period is from June to October.

Properties and Uses.—The sweet scabious is often used as a diuretic, for which purpose the infusion, decoction, and tincture, are preferable. It has often increased the daily evacuation of urine from twenty-four to sixty-seven ounces. A pint or two of the infusion may be taken every day, and usually agrees well with the stomach, even when the squill and digitalis are intolerable. The dose of the tincture is from two to four drams daily; it is made by digesting one ounce of the leaves in a pint of proof spirit. They are beneficial in all diseases of the bladder and kidneys, attended with pain and irritation, in which they give speedy relief; also in all compound cases of gravel and gout. In dropsical disorders, it acts as a diuretic. In chronic diarrhœa it is astringent, and has frequently effected cures without the aid of any auxiliary remedy.

NO. 287.—PHILADELPHIA FLEABANE.

Common Names.—Scabious, &c.

E. PHILADELPHICUM.—Pubescent; leaves wedge-oblong, rarely gash-toothed; cauline ones half-clasping; stem weak, simple, corymbed above; peduncles elongated, 1-flowered; rays capillary, twice as long as the hemispherical calyx.

Description.—This plant is most generally known in botanical shops as *Scabious.* It is a perennial and herbaceous plant, with a branching, yellowish root, and from one to five erect stems, which rise two or three feet in height, and are much branched at top. The whole plant is pubescent. The lower leaves are ovate-lanceolate, nearly obtuse, ciliate on the margin, entire or marked with a few serratures, and supported on very long foot-stalks; the upper are narrow, oblong, somewhat wedge-shaped, obtuse, entire, sessile. and slightly embrace the stem; the floral leaves are small and lanceolate. The flowers are numerous, radiate, and disposed in a panicled corymb, with long peduncles bearing from one to three flowers.

Properties.—It is diuretic, without being offensive to the stomach, and possesses properties almost identical with the preceding species. In its operation it appears to exert a specific influence over the secretions; not only those of the glandular system generally, but also of the mucous and serous tissues, as well as of the lymphatics. Its diuretic power is pretty constant, and quite available in dropsical and kidney affections, and especially in irritability of the bladder. Professors Wistar, Physick, Barton Eberle, add their testimony to the power of this plant in hydrothorax, a sarca, &c., and some of them recommend it in gout, combined with a lithic diathesis. It imparts its medical qualities to both water and alcohol, but more readily to the latter.

Employment.—It is most conveniently administered in infusion or decoction, of which a pint, containing the virtues of an ounce of the herb, may be given in twenty-four hours.

GENUS GNAPHALIUM.—Calyx imbricate, with the marginal scales rounded, scarious, glossy, shortish, colored; receptacle naked; egret pilose or plumose, scabrous; florets of the ray subulate, of the disk entire. Sometimes all the florets are perfect.

NO. 288.—LIFE EVERLASTING.

Common Names.—Sweet Balsam, White Balsam, Cudweed, Live-for-ever, &c.

G. POLYCEPHALUM.—Leaves lance-linear, acute, glabrous above, downy beneath; stem panicled, downy; corymbs terminal.

Description.—This plant inhabits dry pastures and neglected fields, and rises to the height of one or two feet. The stem is thickly branched toward the top, and covered with a whitish down. The leaves are long, narrow, acute, waved or irregular along the margin, green above, and woolly beneath. The flowers are of a dull-white color, and grow in thick, terminal clusters, making their appearance in July or August.

Properties and Uses.—The herb has a pleasant odor, and an aromatic and slightly bitter taste. The infusion, taken in warm draughts, produces perspiration, and is useful in colds, fevers, and influenza. It is also employed in fluor-albus and consumption. The leaves and blossoms are in much repute as a fomentation in quinsy and other forms of sore throat.

The *Gnaphalium uliginosum*, called mouse-ear and mud-life-everlasting, possesses similar properties.

GENUS HELENIUM.—Calyx 1-leaved, many-parted; egret 5-awned, chaffy leaves; receptacle globose, naked in the disk, and chaffy in the ray only; florets of the ray half 3-cleft; seed villose.

NO. 289.—SNEEZEWORT.

Common Names.—False Sunflower, Sneezeweed, &c.

H. AUTUMNALE.—Pubescent; stem corymbose above, winged; leaves lanceolate, serrate, decurrent; peduncles thicker above; rays flat, florets 5-cleft.

Description.—This is an indigenous plant, which grows all over the United States, from Canada to Texas and Florida, in wet meadows and savannas, damp fields, overflowed grounds, banks of streams, and moist locations. Root perennial, fibrous; several stems from three to seven feet high, erect, angular, winged by the decurrent leaves, branched and corymbose above, covered as well as the leaves with a very short and dense pubescence. The leaves are glaucous, alternate, sessile, decurrent, lanceolate, acuminate, unequally serrate, dotted by small pits, sub-trinervate. The flowers are corymbose, of a golden yellow, large, one or two inches in diameter; peduncles axillary, uniflore, with one oval-lanceolate bract, clavate or thicker upward; perianth with many unequal, linear-acute segments; phoranth semi-globose, with chaffs near the rays, lanceolate; rays from five to twenty, spreading, flat, or sometimes rather reflexed, shape cuneate, end broad trilobe, middle lobe often smaller; disk greenish-yellow, convex, florets small, crowded, five-cleft, with syngenesious stamina, a bifid style, oblong germ, pappus formed by three to five chaffs, subulate and awned.

Properties.—Sneezewort has scarcely any smell; the taste is bitter, and a little pungent or even acrid. We believe it has never been analyzed, but is known to contain amarine, extractive, and an oil. It is tonic, febrifuge, and errhine. Clayton and Schoepf mention its use in intermittents, but it is not as yet extensively employed in fevers, yet is well known and used all over the country as a valuable errhine. The whole plant reduced to powder, but more especially the flowers (particularly the central florets), are powerfully sternutatory. A very small pinch of their powder causes a prolonged sneezing. Barton highly extolled it as a substitute to more acrid errhines, either alone or combined with other ingredients. It may be used in diseases of the head, such as deafness, amaurosis, headache, hemicrania, rheumatism, or congestions in the head and jaws, &c. The shocks of sneezing are often useful in those cases when other remedies are unavailing. This plant is as yet but little known to physicians, and deserves investigation.

Employment.—It is generally used in the form of powder, as indicated above.

GENUS INULA.—Calyx imbricate, generally squarrose; egret simple, scabrous, sometimes a minute, exterior, chaffy one; anthers ending in two bristles at the base; ray-florets numerous, always yellow.

NO. 290.—ELECAMPANE.

1. HELENIUM.—Leaves clasping, ovate, rugose, downy beneath; scales of the calyx ovate.

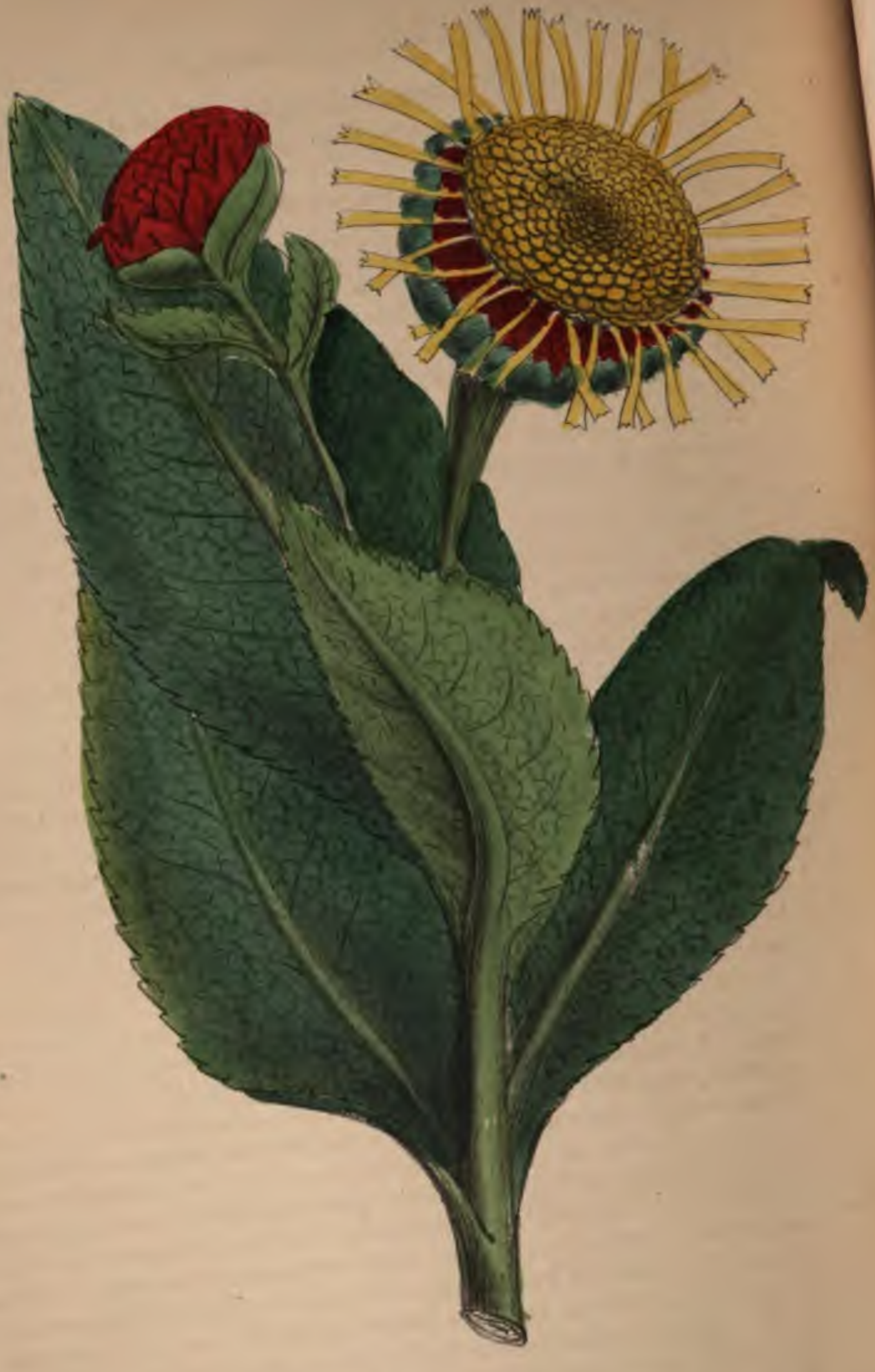
Description.—Elecampane is a perennial plant, indigenous to Europe, but is very common in this country, growing in low meadows, by roadsides, and in stony pastures, flowering in July or August. The root is large, tuberous, elongated, brown externally, and white internally. The stem is cylindrical, from four to six feet high, branched toward its summit, and covered with a whitish down. The radical leaves are oval, acute, tomentose underneath, irregularly dentate and petiolate; the caulinary ones small, sessile, and almost round. The flowers are yellow, situated at the extremity of the branches; the florets of the circumference are female: involucre formed of imbricate leaflets. The seeds are elongate, cylindrical, surmounted by a silky and sessile pappus.

Elecampane is supposed to be the *Inula* of Pliny, who mentions *Helenium* as a different plant. Horace likewise refers to it:—

> "Erucas virides, inulas ego primus, amaras
> Monstravi incoquere."—SAT. 8, v. 51.
>
> ———— "quum rapula plenus
> Atque acidas mavult inulas."—SAT. 2, v. 44.

Properties.—Elecampane-root has an aromatic smell, a bitter taste at first, and afterward sharp and camphorated. It consists of a bitter extractive, soft resin, elecampane-camphor (HELELIN), a variety of starch named INULIN, a trace of volatile oil, &c. Water and alcohol dissolve its active principles. The root is possessed of pretty energetic tonic properties, and likewise acts as an excitant, owing to the camphorated oil which it contains. It is an excellent article, in combination with others, in colds and coughs, pulmonary irritation, consumption, and in some forms of indigestion, when it proceeds from a debility of the digestive organs. It is also good in itch, tetter, and all cutaneous affections. It enters into the *Pulmonary Balsam* of our pharmacopœia.

Employment.—It may be given in powder, decoction, or infusion. A dose of the powder is from half an ounce to an ounce. The decoction or infusion is made by adding from half an ounce to an ounce of the root to one quart of water.



Inula helenium

GENUS SENECIO.—Calyx cylindric: leaflets with withering, blackish tips, and a few small calycle leaflets at the base: egret simple, capillary, copious: ray-florets sometimes wanting.

NO. 291.—LIFE-ROOT.

Indian Names.—Uncum, Nutqua-mequot, &c.

S. GRACILIS.—Radical leaves very long-petioled, orbicular, sub-cordate, crenate: cauline ones few, very remote, linear-oblong, dilated at the base, gash-toothed; peduncles very short, hirsute, sub-umbelled; calyx smooth; rays few, very short.

Description.—This is an indigenous plant, found growing on the banks of creeks, and on low, marshy grounds, throughout the northern and western parts of the United States. The root is perennial, horizontal, about the size of a common wheat-straw, and furnished in many short fibres. The flower-stem rises from twelve to eighteen inches high, sub-umbelled; the flowers are yellow.

The virtues of this plant are known to but very few of the medical profession. A knowledge of its remedial qualities, like many of the most valuable remedies belonging to our vegetable materia medica, was first obtained from the Indians, and it is to that class of medical men known as "Indian root-doctors" that we are indebted for our knowledge of their mode of operation.

Properties.—This article is sub-tonic, pectoral, diuretic, and astringent, and as such is very highly valued in pulmonary affections attended with general debility. In the incipient stages of consumption, it is particularly recommended by those who have had the most ample opportunities of testing its virtues. It is valuable in gravel and all urinary diseases, and excellent in severe dysentery, bloody flux, &c. But perhaps the most conspicuous of its properties is that of an emmenagogue. Those who have been in the habit of using it in cases of suppressed menstruation consider it a very efficacious remedy in restoring that secretion. It is also said to be capable of restraining it when too profuse, and in consequence of these apparently dissimilar properties it is known to many by the popular name of *female regulator.* An observant and excellent physician of our school remarks concerning this article: "In cases of suppression, I have administered it in the form of decoction, of about half an ounce to a pint of water, the whole to be taken in the course of the day, in divided doses, commencing five or six days antecedent to the expected period of menstruation, and if the desired object was not attained the first time of administering it, I directed a repetition of the same course at the next expected period; and in every case, with not a single exception, so far as I now recollect, it proved effectual. I have used it in combination with the *Juniperus sabina* and the *Asarum canadense* under similar circumstances, which combination has proved to be almost a specific in my hands, unless the obstruction was dependent upon or complicated with a structural lesion of some important organ. As to its capability of restraining that secretion when too profuse, and when administered uncombined, I can say nothing; but when given in combination with cinnamon and red-raspberry leaves, in the form of infusion, I have found it a very salutary preparation."

Employment.—The manner of preparing it for use is by simmering or slowly boiling a suitable quantity of the roots in a closely-covered vessel, until their strength is extracted; then add equal parts of honey and loaf-sugar to form a sirup of proper consistency, to every quart of which add one gill of the best quality of Jamaica spirits. The dose is from one half to a wine-glassful four or six times daily in pulmonary diseases, hemorrhages from the lungs, &c.

NO. 292.—GROUNDSEL.

S. VULGARIS.—Flowers in crowded corymbs.

Description.—This is an annual European plant, introduced into this country, and growing in cultivated grounds. The whole herb is used, and should be gathered while in flower. It has, when rubbed, a peculiar, rather unpleasant odor, and a disagreeable, herbaceous, somewhat bitterish, and saline taste, followed by a sense of acrimony.

Properties and Uses.—It is emetic in large doses, and has been given in convulsive affections, liver-complaints, spitting of blood, &c., but is now very little used. The bruised herb is sometimes applied externally to painful swellings and ulcers. The plant is also employed as food for birds, which are very fond of it.

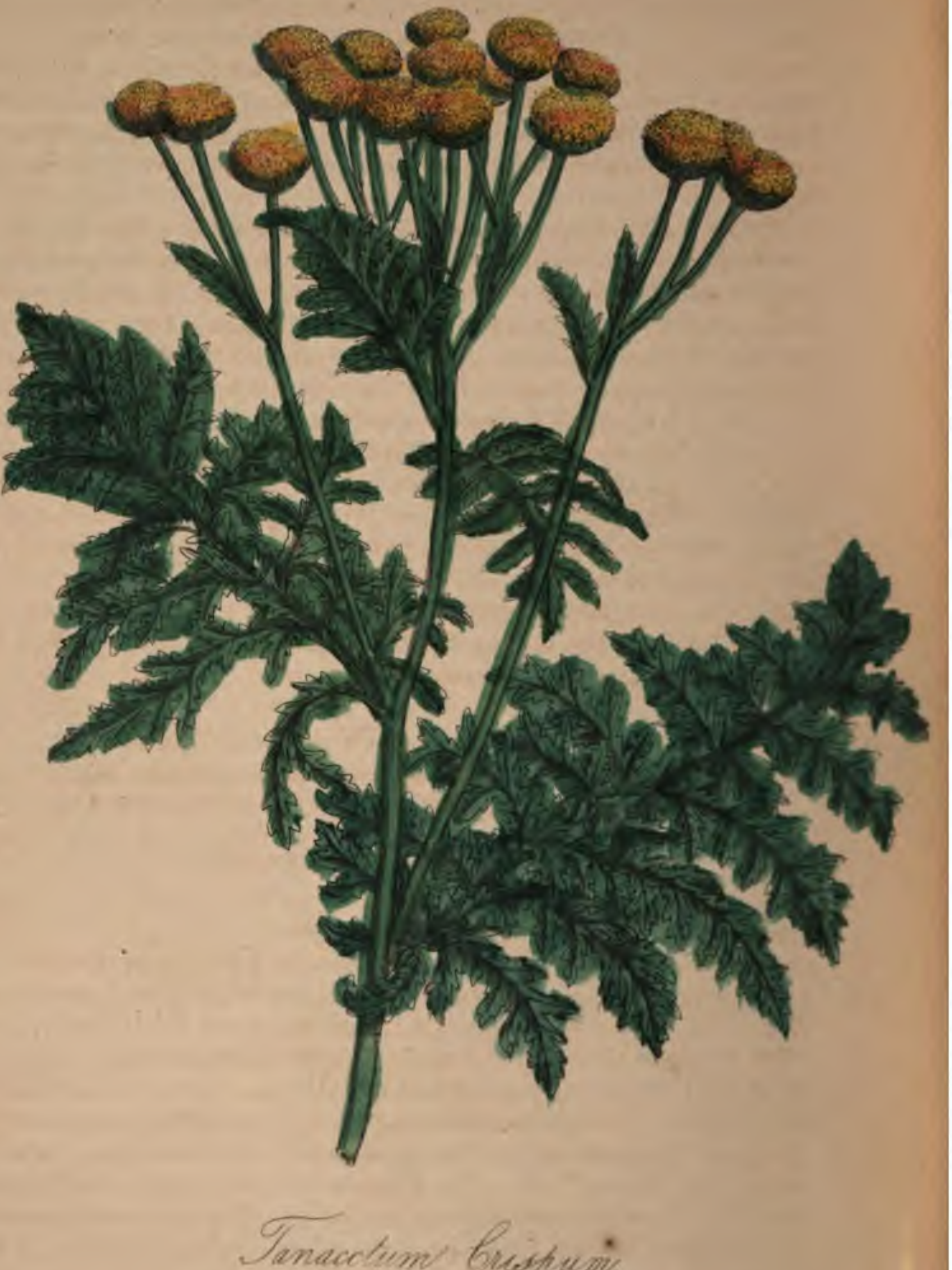
GENUS SOLIDAGO.—Calyx oblong or sub-cylindric, with oblong, narrow, pointed, straight scales, imbricate, closed upon the flower; ray-florets about 5, and fewer than 10, lanceolate, 2-toothed, equal to or shorter than the calyx; filaments capillary, very short; style thread-form, equalling the length of the stamens; stigma cleft, spreading; egret simple, pilose, scabrous; réceptacle furrowed with dots or punctures; seeds oblong-ovate.

NO. 293.—GOLDEN ROD.

Common Names.—Sweet-scented Golden Rod, &c.

S. ODORA.—Stem erect, pubescent, upper part furrowed; leaves lance-linear, entire, glabrous, rough-edged; racemes panicled, two or three inches long, spreading horizontally, each generally accompanied by a leaf; bracts oblong, smooth; stalk angular and rough.

Description.—The golden rod has a woody, branching, fibrous root, which sends up a number of slender, hairy stems, rising sometimes to the height of five or six feet. The leaves are broad at the base, three or four inches long, and taper gradually to an acute point; they are of a light-green color, smooth upon the upper and lower sides, but rough along the edges. Held before the light, they exhibit a number of beautiful transparent dots and veins. The flowers, which are of a golden-yellow color, are thickly crowded upon the upper sides of horizontal branches, which are given off toward the summit of the stem.



Tanacetum Crispum.

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According to President J. E. Smith, there are seventy species of the golden rod in the United States; but the plant described above, although nearly resembling many of them in appearance, may be identified by the taste of the leaves or flowers, which is similar to that of fennel or anise. Hence it has been distinguished by the name of sweet-scented golden rod. It grows along hedges, and in woods and fields, remaining in bloom from August to September.

Properties and Uses.—The leaves and flowers of the golden rod have a warm, aromatic, and very agreeable taste. They are moderately stimulant, and the tea, administered warm, produces perspiration. It may be usefully employed in allaying nausea, and as a remedy in pains of the stomach and bowels, occasioned by wind.' It is also a pleasant drink for children, and may be administered freely. The strength of the plant is impaired by boiling. Its active properties reside in a volatile oil, which has a pleasant odor, and is used to scent the bayberry-snuff. According to Pursh, the dried flowers are used in some parts of the United States as a substitute for common tea. The essence is beneficial in headache. The head should be bathed with it, and a teaspoonful taken internally. It is also a pleasant addition to nauseous or disagreeable medicines. It has been found a valuable remedy in hemorrhages, perspiration from slight exercise, soreness of the mouth, throat, or bowels, and female complaints, such as leucorrhœa and painful or too copious menstruation.

GENUS TANACETUM.—Calyx imbricate, hemispherical; scales acuminate; rays obsolete, 3-cleft; egret somewhat marginal; receptacle naked; flowers corymbed.

NO. 294.—DOUBLE TANSY.

Common Names.—Common Tansy, &c.

T. CRISPUM.—Leaves crispid and dense, gash-serrate.

Description.—This plant has a perennial root, sending up annually several strong, straight, six-sided, striped stems, to a height of some two or three feet. The leaves come off from the stem one above the other on opposite sides, the leaflets being ranged opposite each other on the stalk, and in turn subdividing into deeply-notched leaflets. The flowers are yellow, blooming from July to September, and forming close, terminal, flat-topped bunches. The seeds are small and oblong-shaped, with five or six ribs, and furnished with a thin, stringed down. The whole herb above ground is used in medicine, and should be gathered when in bloom. The leaves will communicate to cloth a handsome green dye, and the flowers a passable yellow. Tansy will grow in any common garden soil, and may be increased by either planting the seed or parting the root.

The double tansy may be a variety of the *Tanacetum vulgare*, but at any rate it is preferable as a remedial agent. *Tanacetum* is a word corrupted from *Athanasia*, the ancient name for tansy—of *a*, without, and *thanatos*, death, in allusion to the durability of its flowers.

Properties.—Tansy is a powerful aromatic bitter. It is used in the form of infusion to bring on the monthly periods in women, and also in hysterics. It has been employed with some success in fever and ague, and as a preventive of gout when the paroxysms are coming on. Throughout the country the tea is a favorite domestic remedy in fevers, dropsies, and bloody urine. The action of the dry herb is much milder, on account of the partial loss of essential oil. In this state it ranks highly as a tonic stimulant and cure for worms. A poultice of the leaves cures sprains or bruises.

Employment.—It is used in the forms of infusion and powder. The former is prepared by adding an ounce of the plant to a pint of boiling water, of which the dose is a wineglassful two or three times a day. The dose of the powder is from a scruple to a dram.

GENUS TUSSILAGO.—Calyx simple, swelling; scales equal, and equalling the disk, sub-membranous; pistillate florets ligulate or without teeth; egret simple, sessile; sometimes polygamous.

NO. 295.—COLT'S-FOOT.

Common Names.—Bull's-foot, Flower-velure, &c.

T. FARFARA.—Scape simple-flowered, scaly; leaves cordate, angular, toothed, downy beneath.

Description.—Colt's-foot is one of the most common of our native plants, and is found in profusion throughout Europe, growing in moist, shady situations, especially on a chalky or marly soil, in waste places, on the banks of rivers, and in gardens, where it frequently proves a very troublesome weed. The clayey parts of the pestilential *maremmes* of Tuscany, where scarcely any other plants will grow, are covered with common colt's-foot. It is a perennial, flowering from the middle of March to the end of April, but the leaves do not appear in full luxuriance till the month of May. The name *Tussilago* is derived from *tussis* and *ago*, in allusion to its pectoral powers; and *Farfara*, from the resemblance its leaves bear to those of the white poplar, called by the Greeks *Farfarus*.

The root is very long, frequently penetrating to the depth of several feet, and sending out many slender fibres, which creep horizontally. The scape, or flower-stem, appears before the leaves; it is erect, slender, round, woolly, slightly furrowed, six or eight inches high, and clothed with numerous lanceolate scales. Several stems generally issue from the same root, each supporting a single flower, about an inch in diameter, and of a bright-yellow color.

The beautiful wing-like pappus with which the seeds are so plentifully provided, renders colt's-foot peculiarly a plant of passage; and no sooner is a fit soil exposed, than it becomes covered with young plants of colt's-foot, although none may have previously been growing within many miles. This has sometimes led to the ignorant belief that this plant is generated spontaneously by clayey soils, the facility with which its seeds are transported either not being known or not being duly considered. It is, however, one of many such admirable provisions of nature, that plants with long, penetrating roots, such as thistle, colt's-foot, &c., should be furnished with ready means of migration, and that they should flourish chiefly in clay-bound soils, which they thus, by their burrowing roots, perforate and drain.

Properties.—The root is mucilagious and bitterish; the leaves are inodorous, and have a rough, sub-viscid taste, like that of artichokes. The mucus they contain is yielded to water by decoction, and evolves, by boiling, a peculiar odor. Among the ancients this plant was famed for its pectoral and vulnerary properties. Dioscorides, Pliny, and Galen, recommend it to be smoked through a funnel or reed; and in a work ("*De Internis Affectionibus*," Ed. Fæs., p. 532, l. 34) attributed to Hippocrates, the root, βηχιον, taken in honey, is recommended in ulcerations of the lungs. Dr. Cullen, of England, employed its expressed juice in scrofulous cases, administering several ounces a day, and in some instances he thought that it favored the healing of the sores. During the last century, both the leaves and the flowers were recommended for their demulcent and expectorant virtues; and old Gerard, in his "Herball, or General Historie of Plants," says: "The fume of the dried leaves taken through a funnel, burned upon coles, effectually helpeth those that are troubled with the shortnesse of breath, and fetch their wind thicke and often, and breaketh without peril the impostumes of the breast. Being taken in the manner as they take tobaco, it mightly preuaileth against the diseases aforesaid."

Employment.—Those who wish to exhibit colt's-foot, on account of its demulcent properties, generally boil a handful of the leaves in a quart of water down to a pint; and the decoction, after being strained, is sweetened with honey or coarse sugar. The dose is a teacupful.

A kind of tinder, or touchwood, is in some countries made of the roots, impregnated with nitre.

Order III. Polygamia Frustranea.—Bearing flowers which have the disk-florets perfect, and those of the ray neutral.

GENUS CENTAUREA.—Calyx various, mostly imbricate, roundish; egret simple, various; receptacle bristly; corollas of the ray funnel-shape, longer, irregular.

NO. 296.—BLESSED THISTLE.

Common Names.—Holy Thistle, Spotted Thistle, Spotted Cardus, &c.

C. BENEDICTA.—Scales of the involucre doubly armed with spines, woolly bracted; leaves somewhat decurrent, toothed, spiny.

Description.—This is an annual plant, growing spontaneously in the south of France, in Spain, Barbary, and the Levant, flowering plentifully in June, and partially until September. It has become naturalized in this country, and is much cultivated in gardens as an ornamental as well as a medical plant.

Properties.—This plant was formerly in such high repute, that it obtained the name of the *blessed thistle*, and was given for the plague, worms, and numerous other diseases. If we are to believe Simon Pauli, it has no equal in healing obstinate ulcers, and even cancers; and Arnoldus de Villa-nova lauds it in the same extravagant manner. Notwithstanding that it is now but little employed, it is a useful medicine; the strong decoction or infusion being capable, like the chamomile, of inducing vomiting. The infusion, less strong, taken while warm, produces a copious determination to the skin; while six drams of the leaves, added to a pint of cold water, forms an elegant bitter infusion, which is very efficacious in loss of appetite and dyspepsia. Water and alcohol extract its virtues.

Employment.—"The blessed thistle," says Dr. Wood, "may be so administered as to prove tonic, diaphoretic, or emetic. The cold infusion, made with half an ounce of the leaves to a pint of water, has been employed as a mild tonic in debilitated conditions of the stomach. A stronger infusion, taken warm while the patient is confined to bed, produces copious perspiration. A still stronger infusion, or the decoction, taken in large draughts, provokes vomiting, and has been used to assist the operation of emetics. The herb, however, is at present little employed, as all its beneficial effects may be obtained from chamomile. The dose of the powder as a tonic is from a scruple to a dram; that of the infusion two fluid ounces."

Incompatibles.—Nitrate of silver and superacetate of lead.

GENUS HELIANTHUS.—Calyx imbricate, sub-squarrose, leafy; receptacle flat, chaffy; egret 2-leaved, chaff-like, caducous.

NO. 297.—SUNFLOWER.

Common Names.—Common Sunflower, &c.

H. ANNUUS.—Leaves all cordate, 3-nerved; peduncles thickening upward; flowers nodding.

Description.—This is an exotic plant, but a well-known one, cultivated in all our gardens, and requires no further description. It is an excellent plant for young botanists to examine as a specimen of the third order of the class *Syngenesia*, as the organs are large, and the peculiar character of the class well developed.

Properties.—The leaves are mildly carminative and anti-spasmodic, but are seldom used. The pith has been proposed by M. Percy for the preparation of MOXA, for which it is well adapted by the nitre which it contains, and which enables it to burn without insufflation. The stem, when perfectly mature, is cut into transverse sections about half an inch in thickness, which must be carefully dried, and kept in a perfectly dry place. They have this advantage, that, in consequence of the retention of the cortical portion, they may be held with impunity, while burning, between the fingers of the operator.

One bushel of the seeds yields by expression three quarts of cold and four of hot pressed oil. The uses to which this oil is adapted are various. It is equal to olive-oil for table or medical use, and superior in many respects to sperm for lamps, while for paints and machinery it is well adapted to supersede the oils used in them. For burning in lamps the sunflower possesses one advantage, which has been an object of deep solicitude ever since sperm-oil came into use—it has no perceptible smell: hence sick persons and others, to whom the smell of sperm-oil is so offensive, can use the sunflower-oil with perfect freedom. Its advantages in this respect have been fully tested in Philadelphia, where it is recommended by some eminent physicians, and in constant use by their patients. It has another important advantage over sperm-oil—it affords about one third more light; that is, sunflower-oil will last one third longer than sperm, both while burning affording the same quantity of light.

Employment.—The leaves are sometimes used as a substitute for the *Helianthus divaricatus*, but they are not so efficacious.

NO. 298.—WILD SUNFLOWER.

Common Names.—Small, Rough Sunflower, &c.

H. DIVARICATUS.—Stem glabrous, very branching; leaves nearly opposite, sessile, lance-ovate, 3-nerved, scabrous above, smooth beneath; panicle trichotomous, slender, few-flowered.

Description.—The wild sunflower is a showy plant, not uncommon in woods and thickets, flowering in August and September. The stem is erect, round, smooth, generally covered with a sea-green powder. The leaves are opposite, narrow, ovate, rounded at the base, tapering to a long point, slightly serrate, three-nerved, and very rough. The flowers are yellow, in the wild plant but few in number, in the cultivated one numerous. The branches of the panicle either forked or three-parted. It is perennial, and has an agreeable and somewhat spicy odor.

Properties.—This sunflower is one of the most valuable medicinal plants that our country produces. It is carminative, anti-spasmodic, and laxative, and is the most efficacious remedy in bilious colic that can be administered. In all diseases where carminatives and anti-spasmodics are indicated, it may be used with the greatest benefit.

Employment.—The leaves or the root (which is the strongest) may be taken in powder, in doses of ten or fifteen grains every hour, if necessary, or in urgent cases in a larger dose. The powdered leaves of the plant form the principal ingredient in Hull's celebrated physic.

GENUS RUDBECKIA.—Calyx consisting of a double series of leaflets or scales; receptacle chaffy, conic; egret a 4-toothed margin or none.

NO. 299.—THIMBLE-WEED.

Common Names.—Cone-flower, Cone-disk Sunflower, &c.

R. LACINATA.—Lower leaves pinnate; leaflets 3-lobed, upper ones ovate; egret crenate; stem glabrous.

Properties and Uses.—This is a small plant, indigenous to this country. In wasting diseases of the kidneys, it has proved an excellent medicine. It is diuretic and balsamic. Its properties were first learned by noticing its effect on a sheep that had lost the use of its hind legs. The animal daily dragged itself to this plant and ate of it, when, to the astonishment of all who noticed its situation, it recovered. By shepherds and herdsmen it has since been used with happy effects in stranguary and similar diseases, in decoction.

Order IV. Polygamia Necessaria.—Bearing flowers in which the rays only are pistillate; disk-florets staminate.

GENUS CALENDULA.—Calyx many-leaved, equal; receptacle naked; egret none; seeds of the disk membranaceous.

NO. 300.—MARIGOLD.

Common Names.—Pot-Marigold, &c.

C. OFFICINALIS.—Seed keeled, muricate, incurved.

Description.—This is a common and well-known exotic annual, a native of the fields of the south of Europe, and much cultivated in gardens, principally on account of its beauty, and sometimes for its medical properties.

Properties.—The marigold has a peculiar, rather disagreeable odor, which is lost by drying, and a bitter, rough, saline taste. Among its constituents is a peculiar principle, called CALENDULIN, discovered by Geiger most abundantly in the flowers, and considered by Berzelius as analogous to BASSORIN, though soluble in alcohol. The plant is anti-spasmodic, sudorific, deobstruent, and emmenagogue, and is proper in low forms of fever, scrofula, jaundice, amenorrhœa, and various other complaints. Our old friend Culpepper quaintly observes: "It is an herb of the *Sun*, under *Leo*. It strengthens the heart exceedingly, and is very expulsive, and a little less effectual in the small-pox and measles than saffron. The juice of marigold-leaves, mixed with vinegar, and any hot swelling bathed with it, instantly gives ease and assuages it. The flowers, either green or dried, are much used in possets, broth, and drink, and as a comforter of the heart and spirits, and to expel any malignant or pestilential quality which might annoy them!"

Employment.—The flowers are in most cases used, and are generally administered in the recent state, in the form of tea, which is useful to develop eruptions in exanthematous diseases; also good in ophthalmia and vertigo.

Class XVIII. Gynandria.—Bearing flowers with the stamens on the pistil, distant from the corol; pollen mostly glutinous, and most of the flowers with nectaries.

Order I. Monogynia.—Bearing flowers with but one stamen.

GENUS CORALLORHIZA.—Lip produced behind, adnate, with the spur, or free; pollenia 4, oblique, not parallel.

NO. 301.—CRAWLEY.

Common Names.—Dragon's-claw, Coral-teeth, Fever-root, Chicken's-toes, &c.

C. ODONTORHIZA.—Lip entire, oval, obtuse, margin crenate; spur obsolete, adnate to the germ; capsule sub-globose.

Description.—This curious plant has no leaves, or anything green about it. The root is a collection of small, jointed, irregular, fleshy bulbs, branching like a piece of coral. From these rises a smooth, fleshy, striped flower-stalk, to the height of ten inches, bearing a spike of from twelve to twenty brownish-green flowers, which bloom in July and August. The fruit is a large, strong-ribbed box or capsule. It should be looked for in old woods, or where there is much decaying herbage.

Properties.—This plant, prefaced by an emetic, forms an excellent remedy in the cure of various kinds of fever, inducing a gentle and copious perspiration. In pleurisy and similar diseases it is likewise found uniformly beneficial.

Employment.—It is administered in even teaspoonfuls of the powdered root, given in any warming tea at varying intervals; the infusion should be drank as hot as it can be borne. In some cases it is mixed in equal quanties with the powdered root of *Asclepias tuberosa.*

GENUS EPIDENDRUM.—Masses of pollen 4, parallel, separated by a permanent partition, each mass with a granulated elastic filament at the base; style united lengthwise with the claw of the lip into a tube.

NO. 302.—VANILLA-BEAN.

E. VANILLA.—Climbing; leaves ovate, oblong, sessile, cauline.

Description.—This is an exotic, climbing plant, growing in the West Indies, Mexico, and South America. It is said to be also cultivated in the isle of France. The pods are collected before they are quite ripe, dried in the shade, covered over with a coat of fixed oil, and then tied in bundles, which are surrounded with sheet-lead, or enclosed in small metallic boxes, and sent into the market. Several varieties of vanilla exist in commerce. The most valuable, called *ley* by the Spaniards, consists of cylindrical, somewhat flattened pods, six or eight inches long, three or four lines thick, nearly straight, narrowing toward the extremities, bent at the base, shining and dark-brown externally, wrinkled longtudinally, soft and flexible, and containing within their tough shell a soft, black pulp, in which numerous minute, black, glossy seeds are embedded. It has a peculiar, strong, agreeable odor, and a warm, aromatic, sweetish taste. The interior pulpy portion is the most aromatic. Another variety, called *simarona* by the Spaniards, is smaller, of a lighter color, and less aromatic. A third variety is the *pompona* of the Spaniards. In this, the pods are from five to seven inches long, from six to nine lines broad, almost always open, brown, soft, viscid, and of a strong odor, but less pleasant than that of the *ley*, to which it is considered inferior.

Properties and Uses.—According to Bucholz, vanilla does not yield volatile oil when distilled with water. It is employed to flavor chocolate, ice-cream, &c., and also as a perfume. It has recently been recommended as a remedy in hysteria and low fevers, in the form of an infusion made in the proportion of about half an ounce to a pint of boiling water, and given in tablespoonful doses.

GENUS GOODYERA.—Corol ringent-like, the two lower petals placed under the gibbous lip, which is undivided above; style free; constituent particles of the masses of pollen angular.

NO. 303.—SPOTTED PLANTAIN.

Common Names.—Rattlesnake-leaf, Scrofula-weed, &c.

G. PUBESCENS.—Leaves radical, ovate, petioled, veins colored, reticulate; scape sheathed; scape and flowers pubescent; lip ovate, acuminate; petals ovate.

Description.—The spotted plantain grows on small elevations, in beech and maple forests, generally a number of the plants together. Several evergreen leaves appear close to the ground, pale green on the under side, and of a deeper green on the upper, interspersed with light-colored leaves running in various directions. The root grows on the surface of the ground, with fibres on the under side, and is very difficult to dry. This plant should therefore be used in a green state.

Properties and Uses.—The whole plant is valuable, applied both externally and internally, as a remedy for scrofulous affections. Employed in the same manner, it is said to be a specific for the bite of the rattlesnake.

GENUS ORCHIS.—Corol ringent-like, upper petal vaulted; lip dilated, spurred beneath; masses of pollen 2, adnate, terminal.

NO. 304.—MALE ORCHIS.

O. MASCULA, and other species.

Description.—These species of the *Orchis* are noticed merely because from them the SALEP of the shops is made. The name is given to the prepared bulbs of the *Orchis mascula* and other species of the same genus. The male orchis is a native of Europe, the Levant, and northern Africa.

Its bulbs, which are two in number, oval or roundish, internally white and spongy, are prepared by removing their epidermis, plunging them into boiling water, then stringing them together, and drying them in the sun or by the fire. By this process they acquire the appearance and consistence which distinguish them as found in the shops. They were formerly procured exclusively from Asia Minor and Persia, but are now prepared in France, and perhaps other parts of Europe.

Properties.—Salep is in small, oval, irregular masses, hard, horny, semitransparent, of a yellowish color, a feeble odor, and a mild mucilaginous taste. It is sometimes kept in powder. In composition and relation to water it is closely analogous to tragacanth.

Employment.—It is highly nutritive, and may be employed for the same purposes with tapioca, sago, &c.

Order 33. Diandria.—Bearing flowers with but two stamens.

GENUS CYPRIPEDIUM.—Calyx colored, 4-leaved, spreading; corol none (by some the calyx is considered the corol); nectary large, hollow, inflated; style with a terminal lobe, and petal-like appendage on the upper side.

NO. 305.—LADIES' SLIPPER.

Common Names.—Yellow Umbel, Nerve-root, Moccasin-flower, &c.

C. PUBESCENS.—Stem leafy; lobe of the style triangular-oblong, obtuse; outer petals oblong-ovate, acuminate; inner ones very long, linear, contorted; lip compressed, shorter than the petals.

Synonyms.—*Cypripedium flavescens*, Redante; *C. calceolus*, Walter.

Description.—This beautiful plant is common in the hills and swamps of New York, and is found throughout the United States. It grows from twelve to eighteen inches in height, and sometimes has leaves all the way up. The flower is in the form of a purse or round bag, with a small entrance near where it joins the stalk, and is something like a moccasin or slipper. The roots are fibrous, and thickly matted together.

Properties.—Ladies'-slipper root has a pungent, mucilaginous taste, and a peculiar, somewhat nauseous smell. It is sedative, nervine, and anti-spasmodic, and is said to be a substitute for valerian in all cases; but my experience in its employment does not coincide with this opinion. I prefer the English valerian in all cases where a nervine is indicated. Yet the Thomsonians and many of our own physicians prescribe it in all nervous diseases and hysterical affections, to allay pain, quiet the nerves, and promote sleep. It is also used in nervous headache, epilepsy, tremors, nervous fevers, &c.

Employment.—The dose of the powder is a teaspoonful, diluted in sugar-water or other liquid. It may also be used in decoction, or formed into an extract. As with valerian, the nervine power of this plant is increased by combination with mild tonics.

Order V. Pentandria.—Bearing flowers with but five stamens.

GENUS APOCYNUM.—Corolla bell-form; stamens with converging anthers, proceeding from the middle of the stigma, and alternating with 5 nectaries; stigma thick, almost sessile; follicles in pairs, long linear.

NO. 306.—BITTER-ROOT.

Common Names.—American Ipecac, Black Indian Hemp, Indian Physic, &c.

A. CANNABINUM.—Stem erect and branching; leaves oblong-oval, hoary beneath, and downy when young (more or less glabrous in maturity); cymes lateral and terminal, pubescent when young (more or less glabrous in maturity); tube of the corol about equal to the calyx, with an erect limb.

Synonyms.—*Apocynum pubescens*, Brown. The *Apocynum androsæmifolium*, or Dogbane, is perhaps the true BITTER-ROOT, and the present species the true BLACK INDIAN HEMP; but their medical properties are nearly or quite equivalent.

Description.—Bitter-root is a perennial plant, indigenous to the United States, growing in meadows and in low, moist woods. The stems are from one to several in number, about two feet in height, branched above, round, and of a reddish color; leaves numerous and ovate, hanging on foot-stalks. The flowers are terminal, forming a loose panicle, whitish, similar to buckwheat, which terminate in seed-pods resembling cucumbers, containing seeds. The root is composed of numerous long, brown, and slender branches, radiating from a thick tuber.

Properties.—The root of this plant consists of a bark and ligneous part. Its active property appears to be confined altogether to the bark, which has a bitter and nauseous taste, and a smell nearly resembling that of ipecacuanha. According to Dr. Bigelow, it contains a bitter extractive matter, a resin, &c.

This plant is emetic, cathartic, tonic, and diuretic. For a knowledge of its qualities we are indebted to the aborigines, by whom it is much employed. It has been given with success in dropsy. Dr. Eberle, in his "Therapeutics," says: "From my own experience with this plant, which has not been inconsiderable, I am led to regard it as very little inferior to the officinal ipecacuanha as an emetic. Like the latter article, it is a safe and efficacious vomit." In small doses, it acts as a tonic, given in quantity of from three to four grains at a time. It is also useful in dyspepsia, keeping up a gentle action of the bowels, and at the same time giving tone to the stomach. It is good in *lues venera* as an alterative. Used in small doses in dropsy it acts as a powerful hydragogue, cathartic, emetic, and diuretic, often causing large discharges of water and copious perspiration.

Employment.—The dose of the powder, as an emetic, is about thirty grains; as a tonic, from two to four grains. We use it principally as a tonic in indigestion, in combination with other articles. It is one of the ingredients composing the *Wine Bitters*, which is very valuable in dyspepsia, and enters into our *Hepatic Powders*.

GENUS ASCLEPIAS.—Petals 5, reflexed; nectaries 5, concave, erect, containing little horns; each stamen with a pair of pendulous masses of pollen suspended from the top of the stigma; follicles smooth.

NO. 307.—PLEURISY-ROOT.

Common Names.—White-root, Butterfly-weed, Orange Swallow-wort, Wind-root, Flux-root, Silk-weed, Canada-root, &c.

A. TUBEROSA.—Leaves alternate, oblong, lanceolate, sessile; umbels forming a terminal corymb; stem erect, hairy, spreading at the top; flowers a bright-orange color.

Description.—Pleurisy-root is found throughout this country, but grows more abundantly in the southern states. It prefers open situations, poor and gravelly soils, along streams with gravelly beds, and on hills; but is rarely to be met with in rich and loamy soils.

The root is perennial, large, fleshy, white, variable in form, fusiform, crooked or branched. The stems are numerous, either erect, ascending, or procumbent; round, hairy, green, or red. The leaves are scattered, sessile, or on short foot-stalks; very hairy, pale beneath, entire or undulate, oblong or lanceolate, or nearly linear, obtuse or acute. The flowers are received by long, slender pods, containing the seed, to which is attached a kind of silk; flowers erect, and of a bright-orange color.

This plant may be easily known by its brilliant-colored flowers, which blossom in July and August. It is a very ornamental plant, although inodorous. All the *Asclepias* are milky, but this is less so than the other plants of this genus. They all produce a fine glossy and silky down, which has sometimes been employed in the manufacture of beds, hats, cloth, and paper.

Properties.—The root when dry is brittle, and may be easily reduced to powder. It is somewhat bitter to the taste, but not unpleasant. It contains a bitter extractive matter and fecula, which are both soluble in boiling water. When fresh, the root as well as the whole plant is rather unpleasant, subacrid, and nauseous.

Pleurisy-root is sub-tonic, diaphoretic, expectorant, diuretic, astringent, carminative, anti-spasmodic, &c. It is a valuable popular remedy in many diseases. As a mild sudorific it acts safely, without producing any stimulating effect upon the system. Its action upon the lungs is specific, assisting suppressed expectoration, and relieving the difficult breathing of patients who are laboring under attacks of pleurisy, which circumstance has obtained for it one of its popular names. It appears likewise to exert a sort of mild tonic effect upon the system, as well as a stimulant power over the excretories. It relieves difficulty of breathing in general, together with pains in the chest. Sometimes it operates as a mild cathartic, and for this purpose it is a very suitable remedy in the complaints of children. In low stages of typhus and other febrile and inflammatory diseases it has been known to excite perspiration when other sudorifics have failed.

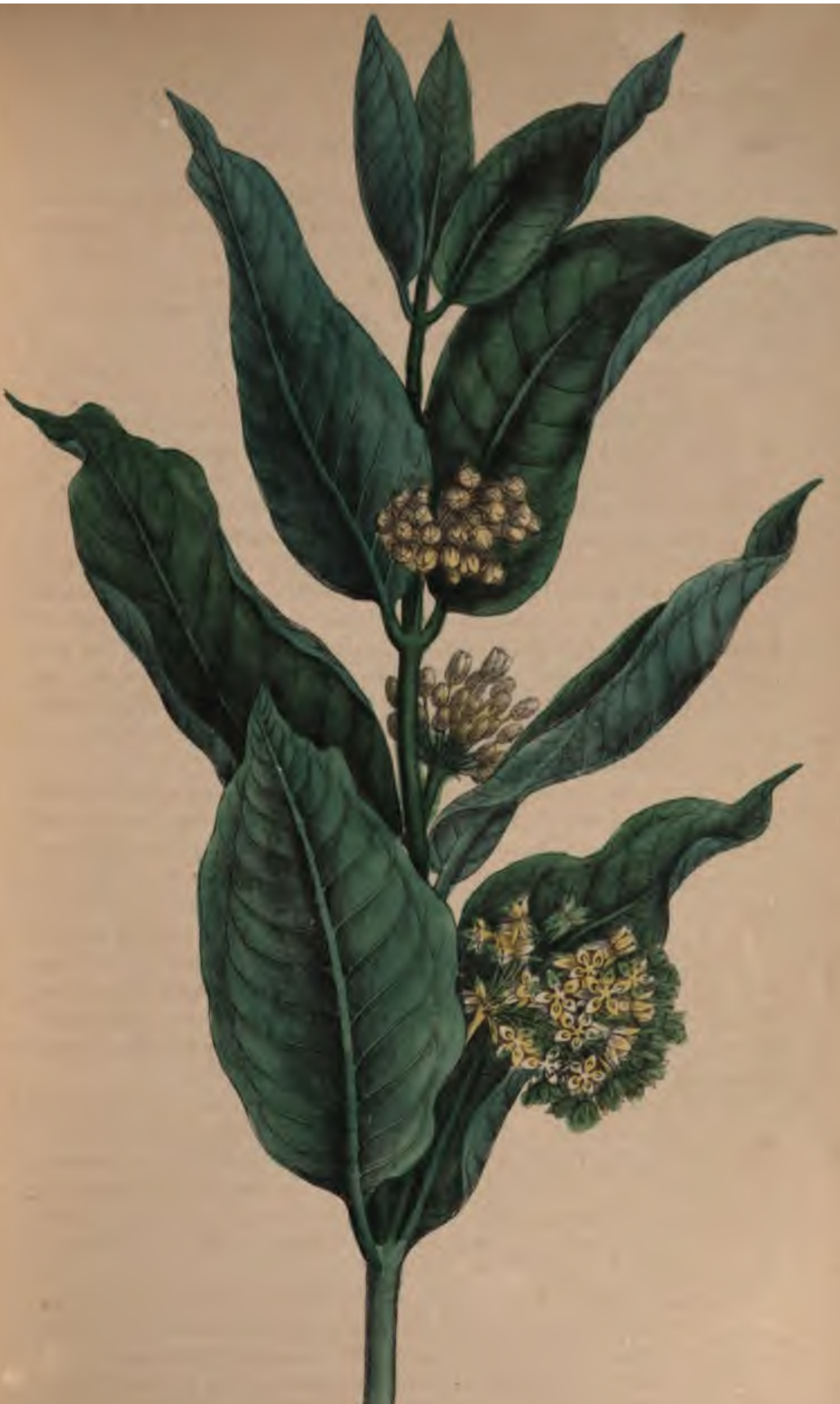
"In the southern states," says Dr. Wood, "the root of *Asclepias tuberosa* has long been employed by regular practitioners in catarrh, pneumonia, pleurisy, consumption, and other pectoral affections; and appears to be decidedly useful if applied in the early stages. It has also been used advantageously in dysentery and acute rheumatism, and might probably prove beneficial in our autumnal remittents."

Dr. Bigelow, in support of the remedial properties of this article, says: "I am satisfied of its utility as an expectorant medicine, and have seen no inconsiderable benefit arise from its use as a palliative in *phthisis pulmonalis.*" Dr. Eberle, in his "Therapeutics," also speaks very favorably of it. Dr. Burgon, of Pennsylvania, considers this plant a highly important remedy in the fever, diarrhœa, and other distressing symptoms, accompanying dentition, and recommends the following mode of administering it: "Boil two drams of the root in a pint of fresh milk, down to three gills: an ounce of this is to be given two or three times in twenty-four hours. It very seldom fails to produce copious perspiration, and at the same time proves gently laxative." He also recommends it in cholera-infantum, or summer-complaint, and marasmus. It is very serviceable in flatulent colics and similar affections. Its beneficial effects in colics are increased by combining it with equal quantities of ginger. I have administered a strong infusion of the pleurisy-root in chronic dysentery, with success.

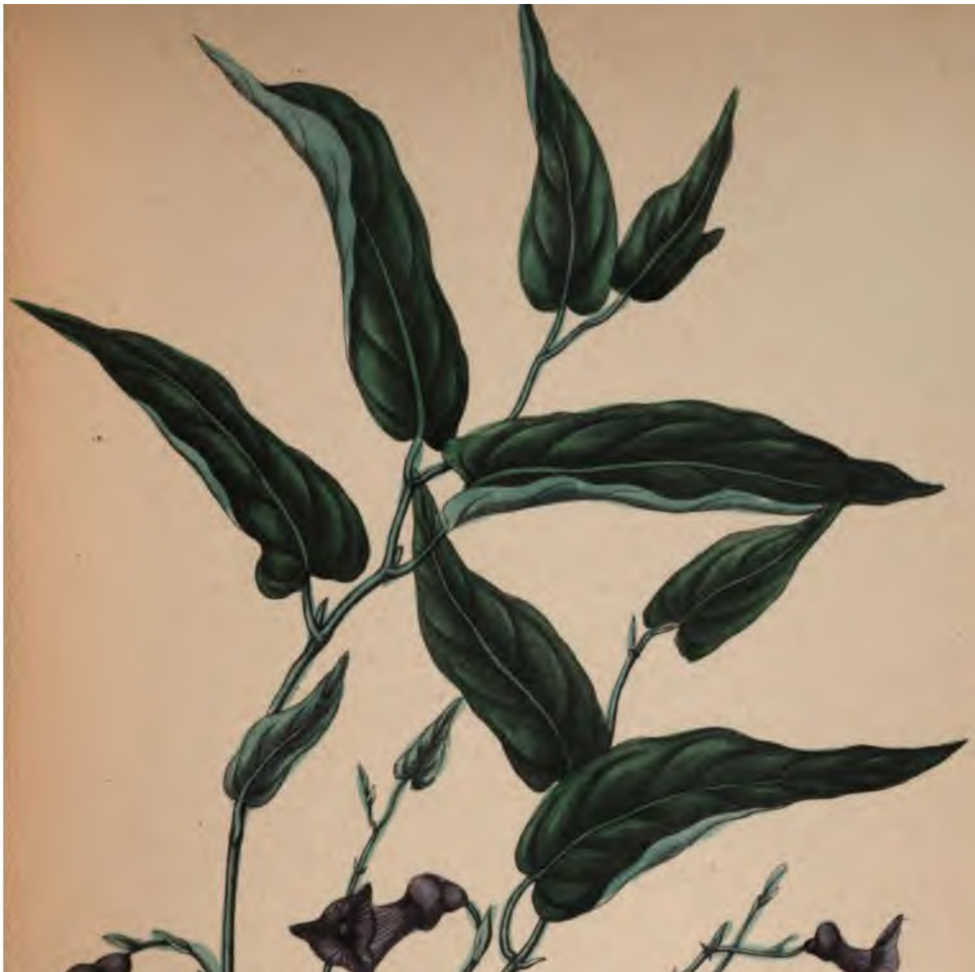
One of the physicians of our school, in speaking of the treatment of pneumonia, says: "I have long been in the habit of using a strong decoction or warm infusion of pleurisy-root (*Asclepias tuberosa*) in every case of pleurisy or inflammation of the lungs which is intrusted to my care, with the most marked advantage, and this too in nearly every stage of these complaints. There is perhaps no single article of the materia medica so admirably adapted to the treatment of these cases as the pleurisy-root. It not only operates very favorably as a diaphoretic, but is an expectorant of transcendent value, invariably increasing the freedom of breathing as well as the facility of expectoration; indeed, it seems to exert a specific control over the inflammatory diseases of the viscera of the thorax.

"I never witness the operation of this article in these cases without being forcibly impressed with the conviction that its valuable properties are but little understood and inadequately appreciated by the great mass of the medical profession. Certain I am, that if medical men generally understood its importance as a remedial agent in these cases, we should hear but very little about the use of tartrate of antimony or ipecac as nauseating diaphoretics in these cases."

Employment.—The dose of the powdered root is from twenty to thirty grains three times a day, or about a gill of the strong decoction may be taken as often. A vinous and aqueous infusion is sometimes recommended. It enters into the *Diaphoretic Decoction* of our pharmacopœia, which is used principally for pleurisy; also into Smith's *Colic Powders.*



Asclepias Syriaca



Aristolochia Serpentaria

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NO. 308.—MILKWEED.

Common Names.—Silkweed, &c.

A. SYRIACA.—Stem very simple; leaves lanceolate-oblong, gradually acute, downy beneath; umbels sub-nodding, from three to five feet high; flowers in large, close clusters, sweet-scented.

Description.—This species of *Asclepias* is very common in the United States, growing in sandy fields, on the roadsides, and on the banks of streams, from New England to Virginia, flowering in July and August. It has simple stems, from three to five feet high, with opposite, lanceolate-oblong, petiolate leaves, downy on their under surface. The flowers are large, of a pale purple, sweet-scented, and arranged in nodding umbels, which are two or three in number. The nectary is bidentate. The pod or follicle is covered with sharp prickles, and contains a large quantity of silky seed-down, which has been sometimes used as a substitute for fur in the manufacture of hats, and for feathers in beds and pillows.

Properties.—The root has lately been found effectual in the cure of dropsy. It is a powerful diuretic, sudorific, emmenagogue, and alexipharmic, and has been found beneficial in catarrhal, cachectic, scrofulous, and rheumatic disorders, and worms in children.

Employment.—Boil eight ounces of the dry root in three quarts of water; of this a gill may be taken four times a day for the dropsy, increasing the dose according to its effect. For other complaints a larger dose may be taken; or the roots in tincture with gin may be used in dropsy and gravelly disorders.

The *Asclepias incarnata*, or the white Indian hemp, possesses similar properties.

Order VI. Hexandria.—Bearing flowers with six stamens.

GENUS ARISTOLOCHIA.—Calyx none; corol 1-petalled, tubular, tongue-shaped; stigmata 6; capsule inferior, 6-celled.

NO. 309.—VIRGINIA SNAKE-ROOT.

A. SERPENTARIA.—Leaves oblong, cordate, acuminate, flat; stem weak, flexuous; peduncles radical.

Description.—This plant is found in shady woods, from New England to Florida and Missouri, but is most abundant in the Allegany and Cumberland mountains, and scarce in alluvial and limestone regions. The root is perennial, knotty, and gibbous, brown, and very fibrous; fibres, long, small, and of a yellow color when fresh. The stems are round, slender, weak, jointed, bearing from three to seven leaves, and from one to three flowers. The leaves are alternate and petioled; base heart-shaped, end sharp, surface smooth, of a pale-green color. The flowers are nearly radical and solitary, on foot-stalks curved, jointed, colored, with some small scales; germ inferior, perigone, reddish, or purplish; tube crooked, limb bilabiate; upper lip notched, lower entire, both short and lobular, six-sessile; anthers oblong, obtuse, attached to the sides of a large, round, sessile stigma; capsule oboval, with six cells, and many minute seeds.

The Virginia snake-root of commerce is collected from several species or varieties of *Aristolochia*, possessing similar properties. All these plants blossom but seldom, or once in their lives, in May or June. The root is chiefly gathered in Pennsylvania, Virginia, Ohio, Indiana, and Kentucky.

Properties.—The root has an agreeable, penetrating, aromatic smell, somewhat similar to that of valerian, and a warm, bitterish, pungent taste. It contains, according to M. Chevallier's analysis, an essential oil, to which it is indebted for its odor; a bitter yellow matter, soluble in water and alcohol, a resinous matter, some gum, albumen, starch, some salts of potassa and lime, and a small quantity of iron and silica. Bucholz obtained from 1,000 parts, 5 of a green, fragrant volatile oil, 28·5 of a yellowish-green resin, 17 of extractive matter, 181 of gummy extract, 624 of lignin, and 144·5 of water. Its active principles are soluble in water and alcohol. Dr. Bigelow states that the distilled liquid in combination with the volatile oil, on standing, deposites around the edges of its surface small crystals of camphor.

This root is diaphoretic, tonic, anodyne, anti-spasmodic, cordial, antiseptic, and a powerful stimulant to the whole system. It was first introduced into the materia medica as a remedy against snake-bites, from which circumstance it derives its name, and was used by the Indians for that purpose.

The Virginia snake-root not only possesses very powerful and lasting stimulant virtues, but besides this general action, it must be observed that it acts also on the skin, by stimulating this membrane and increasing perspiration. It is useful in the treatment of typhoid fevers peculiar to armies and prisons, and in many cases has undoubtedly produced very good effects. It is now less frequently employed than formerly, although it may generally be administered with success in all those cases in which it becomes necessary to promote perspiration.

Dr. Chapman, in speaking of the virtues of this article, says: "To remittent fever, *Serpentaria* seems well adapted, having in many cases an indisputable superiority over the Peruvian bark, inasmuch as it is rarely offensive to the stomach, and may be given in those obscure states of the disease where the remission is not readily discernible. In that disorder called bilious pleurisy it has been highly useful. In bilious complaints it checks vomiting and tranquillizes the stomach."

Employment.—The dose of the powder is from ten to twenty grains, and gradually increased to half a dram. Of the infusion, which is prepared by adding four drams of the root to one pound of water, one or two ounces may be given every four hours. This snake-root enters into the *Sudorific Drops* of our pharmacopœia.

Class XIX. Monœcia.—Stamens in flowers, separate from pistils on the same plant. Pollen generally abundant.

Order I. Monandria.—Bearing flowers with but one stamen.

GENUS EUPHORBIA.—Involucre perianth-like, inflated, with alternating, petal-like segments; staminate florets 12 or more, at the base of the stipe of the pistillate flower, each consisting of an anther united to a pedicel by a filament; pistillate flower central, single, stiped, with three 2-cleft styles; capsule 3-lobed.

NO. 310.—BLOOMING SPURGE.

Common Names.—Large-flowering Spurge, &c.

E. COROLLATA.—Umbel 5-cleft, 3-parted, and dichotomous: involucres and leaves oblong, obtuse; petals obovate, and resembling appendages of the calyx.

Description.—The blooming or large-flowering spurge, in common language called milkweed, is a tall, erect plant, with a large, perennial, branching, yellowish root, which sends up several stems from two to five feet in height, round and generally simple.

The plant grows in various parts of the United States, from Canada to Florida, and abounds in Maryland and Virginia. It prefers a dry, barren, and sandy soil, seldom growing in woods or on the borders of streams. Its flowers appear in July and August. The root is the only part used. This, when full grown, is sometimes an inch in thickness, and two feet in length. It is without unpleasant taste, producing only a sense of heat a short time after it has been taken. The medical virtues are said to reside in the cortical portion, which is thick, and constitutes two thirds of the whole root. They are taken up by water and alcohol, and remain in the extract formed by the evaporation of the decoction or tincture.

Properties.—In a full dose, the root of the *Euphorbia corollata* operates actively and with sufficient certainty as an emetic, producing ordinarily several discharges from the stomach, and not unfrequently acting with considerable energy upon the bowels. In quantities insufficient to vomit, it excites nausea, almost always followed by brisk purging. In still smaller doses it is diaphoretic and expectorant. It can not, however, like ipecacuanha, be given largely in cases of insensibility of stomach, without endangering hypercatharsis, with inflammation of the mucous coat of the stomach and bowels. It is in fact greatly inferior to this emetic in mildness, while it is no less inferior to the tartarized antimony in certainty. It is objectionable as a purge, in consequence of the nausea which it occasions when given in cathartic doses. Dr. Zollickoffer, of Baltimore, was the first to introduce it to the particular notice of the medical profession. It is little prescribed, and seldom kept in the shops.

Employment.—The dose of the dried root as an emetic is from ten to twenty grains; as a cathartic, from three to ten grains. The recent root, bruised and applied to the skin, produces vesication.

NO. 311.—IPECACUANHA.

E. IPECACUANHA.—Stem procumbent, with opposite, obovate, oblong, or linear leaves; peduncles axillary, 1-flowered, elongated.

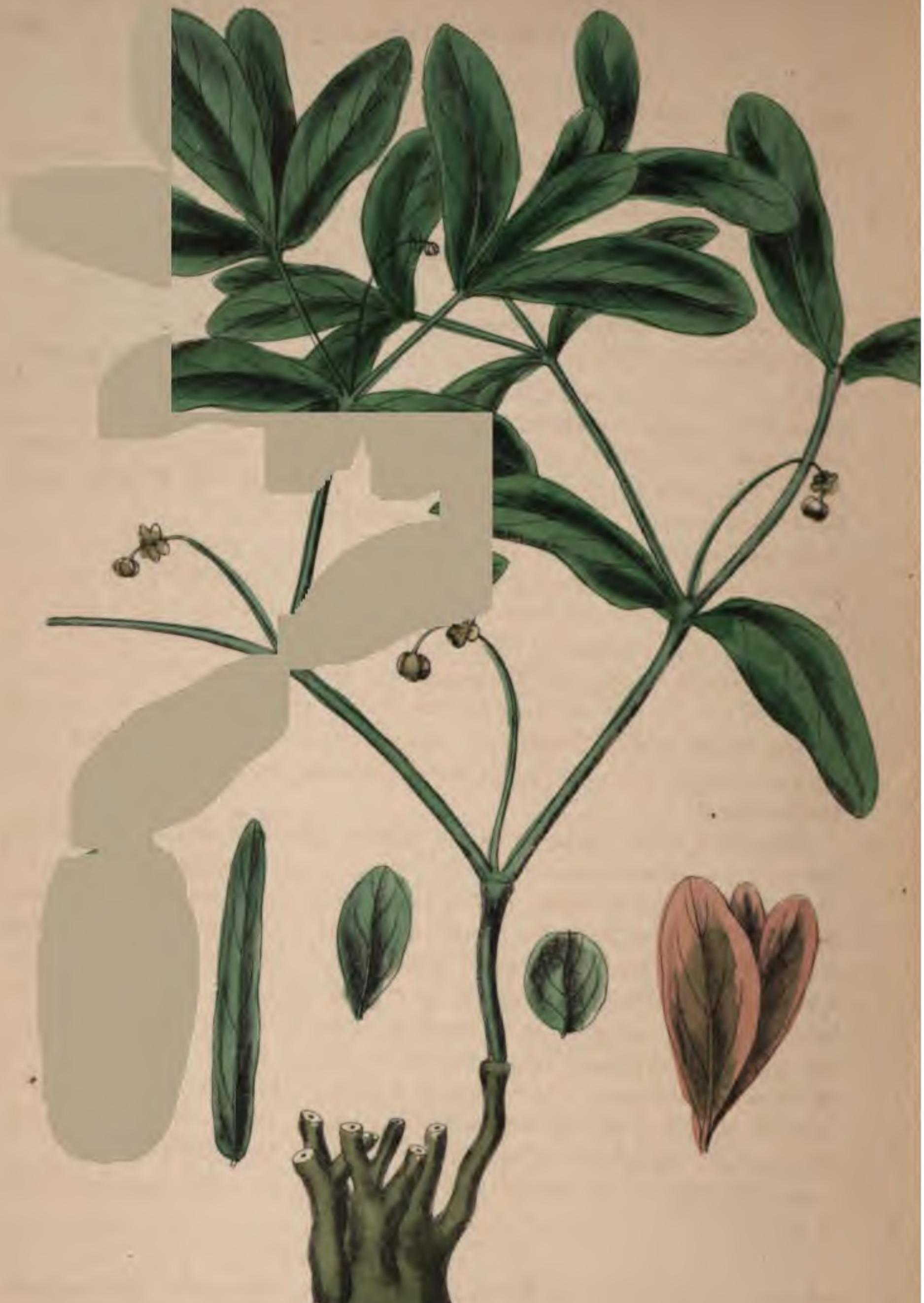
Description.—This is a low, tufted plant, a native of America, growing in shady woods, bogs, and sandy soils, in the middle and southern states of the Union. The root is irregular and fleshy, very large in proportion to the plant it bears, and running deep into the ground. The stems rise from one root, are numerous, erect, or procumbent, forming large bunches on the ground; they are smooth, regularly dichotomous, and jointed at the forks. The leaves are inserted at the joints, opposite, sessile, smooth, having most frequently an oblong shape, differing, however, from circular to linear; their size and color are likewise variable. The flowers are solitary, on long peduncles from the forks of the stem; calyx spreading, divided into five obtuse segments; stamens numerous, in five parcels, appearing at different times, two or three together, with double anthers. The fertile flowers have large, roundish, drooping, pedicelled germs, crowned with six revolute stigmas; capsule three-celled.

Properties.—The dried root is grayish outside and white within. It is light and brittle, and has about the hardness of cork; the taste is sweetish, and not very unpleasant. Dr. Bigelow, from his experiments on this root, supposes it to be possessed of caoutchouc, resin, mucus, and probably fecula and starch.

This plant is emetic, cathartic, and tonic, possessing very valuable medicinal properties. As an emetic, it has nearly superseded the officinal ipecacuanha, and it has been considered by some physicians to be very little inferior to that article in other respects. On account of its tonic power, it has been regarded as very beneficial in intermittent fevers. Dr. Eberle states that he found it particularly serviceable as a sudorific in dysenteric affections; and from his experience of its effects in other cases, he coincides with the opinion expressed by the late Dr. Barton, that it possesses tonic properties.

Euphorbia is likewise an excellent and powerful hydragogue, evacuating the water when all other agents prove unavailing. Some time since a physician consulted me in a case of obstinate dropsy, which had resisted every means made use of to remove it. I advised him to give fifteen grains of the *Euphorbia ipecacuanha*, which he did two or three times in the course of a week; and the effect of it was, a complete evacuation of the water, followed by a permanent cure. It also has a tendency to promote the menstrual evacuation; and is said to be an infallible cure for bilious colic, first producing nausea and vomiting, and then purging freely. Dr. Bone, of New Jersey, a celebrated botanic physician, prescribed this medicine with great success in a variety of diseases.

Employment.—The powdered root may be given in doses of from twelve to fifteen grains, in molasses or tea.



Euphorbia Ipecacuanha

311

Order III. Triandria. — Bearing flowers with but three stamens.

GENUS COMPTONIA. — Staminate flowers — ament cylindric, with calyx-scales, 1-flowered; corol 2-petalled or none; filaments 2-forked. Pistillate flowers — spike or ament ovate; corol 6-petalled; styles 2; nut oval, 1-celled.

NO. 312. — SWEET FERN.

Common Names. — Sweet-bush, &c.

C. ASPLENIFOLIA. — Leaves long-linear, alternately crenate-pinnatifid.

Description. — This is a shrub growing on mountains and sandy plains, chiefly in the eastern states of the Union, and in the Allegany region. Its green flowers appear early in the spring, before the leaves. The leaves are long-linear, ten or twelve times as long as broad, alternately crenate-pinnatifid, that is, unequally scolloped or notched on both edges. It is called sweet-bush, sweet-ferry, fern-bush, fern-gale, spleenwort, &c.

Properties. — The leaves emit a peculiar, strong, sweet, balsamic odor, which is increased by bruising them, and have a pungent taste. It contains benzoic acid, tannin, and resin. This is a plant of which I have made but little use in my practice. I insert it because it is an approved article of the botanic materia medica, and because my present object is chiefly to make the members and friends of the reformed school acquainted with the genuine articles whose medical powers are already indicated in their books. I am familiar with the plant, and know that it possesses the sensible qualities above ascribed to it.

Sweet fern is said to be mildly astringent, stimulant and tonic, cephalic, balsamic, expectorant, secernant, deobstruent, and healing, of all which I have no doubt. It is worthy of trial in the weakening complaints peculiar to females, and especially in the bowel-complaints of children; for, when taken with milk and sugar, it is pleasant to the taste. When the bloody flux prevailed in the town of Rhinebeck, New York, in 1781, and swept off the inhabitants daily, an infusion of this herb cured all who drank it. A strong tea expelled a tapeworm from a person in Rhode Island. The tea is good to check night-sweats. It also makes a pleasant beer, and for this purpose is much employed in different parts of the country, combined with sassafras, wintergreen, and other articles, forming a wholesome beverage.

Employment. — The decoction of the leaves is the usual form in which it is given.

GENUS COIX. — Staminate flowers in remote spikes; calyx-glume 2-flowered, awnless. Pistillate flowers — calyx-glume 2-flowered, corol-glume awnless; style 2-parted; seed covered with the bone-like calyx.

NO. 313. — JOB'S TEARS.

Common Names. — Necklace-weed, &c.

C. LACHRYMA. — Culm semi-terete above; flowers naked; fruit ovate.

Description.—This plant bears a white, hard berry, which is used as a necklace in the country for teething children. It is said to be a good diuretic in decoction.

Order IV. Tetrandria.—Bearing flowers with but four stamens.

GENUS ALNUS.—Staminate flowers—ament composed of wedge-form, truncate, 3-flowered receptacles; calyx a scale, 3-lobed; corol 4-parted. Pistillate flowers—calyx 2-flowered scales, somewhat 3-cleft; corol none; seed compressed, ovate, wingless.

NO. 314.—RED ALDER.

Common Names.—Tag Alder, Swamp Alder, &c.

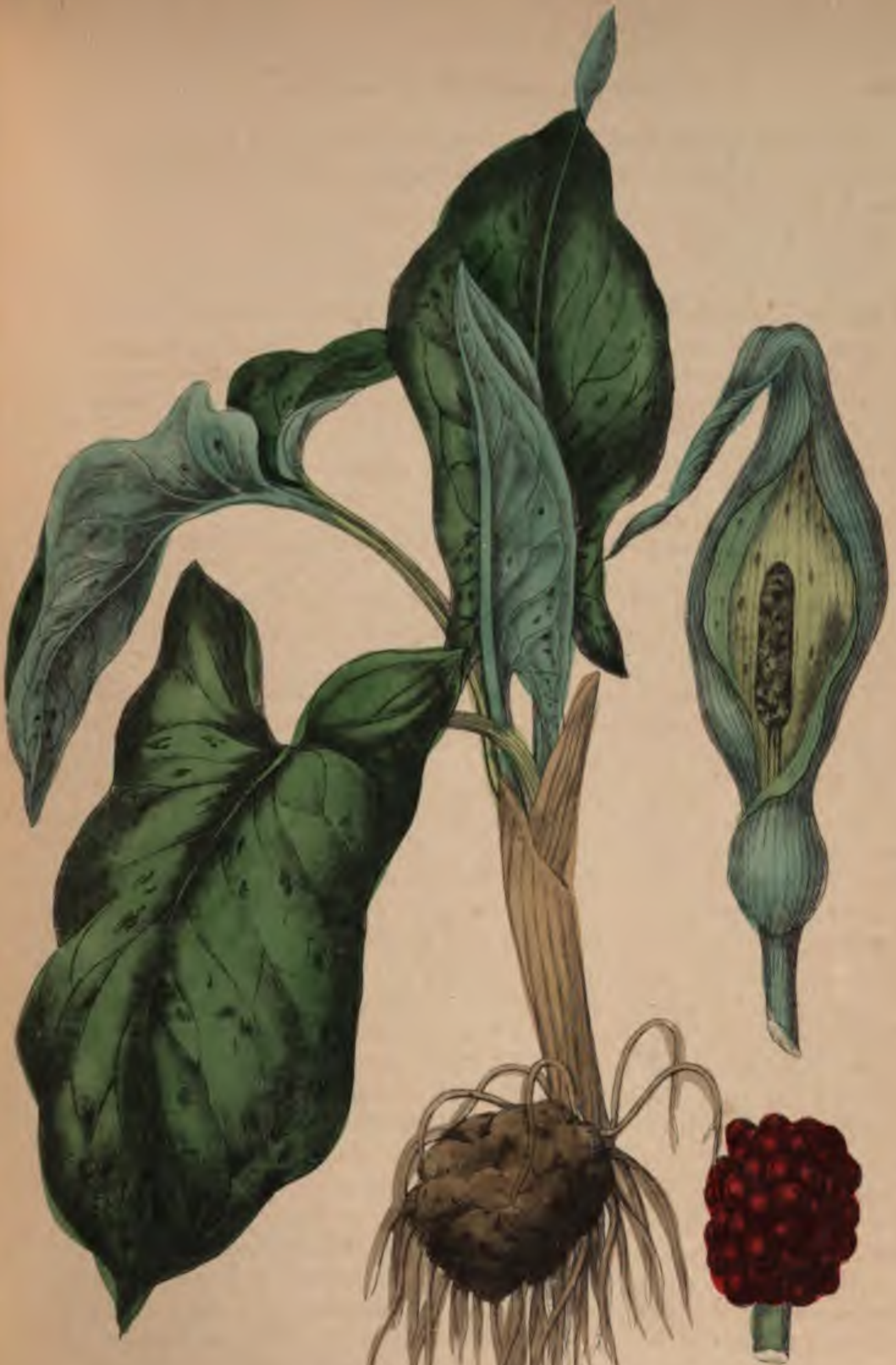
A. SERRULATA.—Leaves obovate, acuminate; veins and their axils hairy beneath; stipules oval, obtuse.

Description.—The red alder is a swamp-tree, growing about ten feet high, and receives its most common name from the tags with which it is covered during the winter

Properties and Uses.—In decoction, or in beer, it is used very frequently as a detergent, and alterative to the blood. An ointment made from it is good in burns and inflammation.

Dr. Helmich, of Ohio, says: "I am persuaded that the *Alnus serrulata* is one of our most valuable vegetable alteratives, and deserves the careful and attentive investigation of the physician, pharmacien, and medical botanist. More recently I have witnessed the valuable properties of the extract, prepared by the evaporation of the decoction to the consistency of thick tar. It makes a very convenient form for pills or solution. I prescribed a strong decoction of the extract two months ago, in a case of impetigo of long standing, and which had proved very obstinate, refusing to yield to all the various plans of treatment, both general and local, persisted in for more than three years. The patient was a lady of full habit, somewhat corpulent, but with general health good. The disease affected both ankles over the instep. She was directed to drink a decoction of the red alder, and use one ounce of the extract dissolved in eight ounces of water as a local application twice a day. In two weeks her husband reported to me that 'the one ounce of extract had done more for her than all other remedies put together.' At the present date, two months since the first application, she is entirely cured.

"Impetigo is, in my experience, a very intractable form of disease; yet in this case it yielded readily to the extract of red alder. It is the first and only case I have ever prescribed it in as a local remedy. I intend, however, to give it a more extended trial in some other diseases, where its tonic and astringent properties will be more fully tested. I am informed by the individual who prepares the extract, that it is an invaluable remedy for dyspepsia, taken in doses of half a dram three times daily."



Arum Triphyllum

316

GENUS URTICA.—Staminate flowers—calyx 4-leaved; corol none; nectary central, cyathiform. Pistillate flowers—calyx 2-leaved; corol none; seed 1, glossy.

NO. 315.—NETTLE.

Common Names.—Common Nettle, &c.

U. DIOICA.—Leaves opposite, cordate, lance-ovate, coarsely serrate; flowers diœcious; spikes panicled, glomerate, in pairs, longer than the petioles.

This common plant is so well known as to need no description.

Properties.—The leaves of the fresh plant stimulate, inflame, and raise blisters where they touch the skin; hence, when a powerful rubefacient is required, stinging with nettles has been recommended. The juice is astringent, and is good in gravelly complaints, internal hemorrhage, and spitting of blood. The decoction is beneficial for those who make bloody urine, and for all beginning consumptions. It is asserted that the seeds and flowers of the nettle may with efficacy be substituted for the Peruvian bark in all febrile affections, especially in tertian and quartan agues. For this purpose the portion to be given should never exceed one dram, administered in wine; in large doses it induces a lethargic sleep. The root of this species of the nettle is a very powerful astringent, and as such has been used, in the form of strong decoction, sweetened with loaf-sugar, in diarrhœa and dysentery.

Employment.—The better way to prepare it is to make a strong sirup of the nettle, the bark of the wild cherry, and the root of the blackberry. A suitable quantity of each of these articles is to be repeatedly boiled, and the liquid strained off each time, until the strength is extracted; to each pint of the liquid add from half a pound to one pound of loaf-sugar and one gill of fourth-proof French brandy, together with a little cinnamon, allspice, or nutmeg. The dose for an adult varies from one half to a wineglassful five or six times daily; the dose for a child from one to two years old is a teaspoonful often repeated. A little rhubarb, either alone or combined with magnesia or prepared chalk, may be advantageously used as a laxative before the employment of the sirup. This course has been found very effectual in the treatment of all bowel-complaints, or when there is debility of the exhalents, connected with general debility of the system. It is a valuable preparation in the summer-complaints of children.

Order XII. Polyandria.—Bearing flowers with more than ten stamens, not on the calyx.

GENUS ARUM.—Spathe cucullate, 1-leaved; spadix not entirely covered with the fructification; being more or less naked above, with pistillate flowers beneath, and staminate in the middle.

NO. 316.—WILD TURNIP.

Common Names.—Indian Turnip, Wake Robin, Dragon-root, &c.

A. TRIPHYLLUM.—Sub-caulescent; leaves ternate; leaflets ovate, acuminate; spadix clubform; spathe ovate, acuminate, peduncled, with the laminæ as long as the spadix.

Description.—The wild turnip has a tuberous, perennial root, which sends up in the spring a large, colored spathe, flattened and bent at the top like a hood, and supported by an erect, purplish scape. The spathe has within it a club-shaped spadix, variegated, and round at the end; at the base it is surrounded by the stamens, the female organs being below the male. The spathe, spadix, and germs, are converted into a bunch of scarlet berries. The leaves stand on long, sheathing foot-stalks, and are composed of leaflets, paler beneath than on their upper surface, and in time becoming glaucous.

There are several varieties of the *Arum*, known by the different color of the spathe, which in one is white, in another dark purple, and in a third green. This plant is a native of the United States, growing in swamps, along ditches, and in shady places. All parts of the plant are stimulating, but the root is the only part used in medicine; it is roundish, flattened at the top and bottom, and is covered with a loose, wrinkled, blackish epidermis. Internally it is white and solid. When fresh, it has a slight odor and is very stimulating, creating when chewed a burning sensation in the throat and mouth, which lasts for some time, and leaves a sense of soreness. The stimulating quality of the root is extremely volatile, and entirely destroyed by heat. The root becomes in a great measure inert when dried, but may be preserved fresh for a year, for medical purposes, if buried in dry earth or sand.

Properties.—The wild turnip in its fresh state is a powerful stimulant and local irritant, possessing the power of stimulating the secretions of the lungs and skin. It is an excellent remedy for colic and pains in the bowels. Its pectoral properties have proved highly beneficial in coughs, consumptions of the lungs, and asthma, for which purposes Dr. Thomson states that he has employed it for more than forty years.

Employment.—The root should be dried, pulverized, and given in honey, in the sirup of preserves, or in any other saccharine matter; or it may be made into a paste with honey or sirup, and used in the form of candy, by letting the substance dissolve gradually on the tongue, so as to diffuse its warmth through the mouth, and thus employed it is good for aphthous sore mouth and throat.

GENUS BETULA.—Staminate flowers—ament cylindric, imbricate; scales peltate, 3-flowered; stamens 10 to 12. Pistillate flowers—calyx a 2 or 3 flowered scale; seed 1-winged.

NO. 317.—BLACK BIRCH.

Common Names.—Sweet Birch, Spicy Birch, Cherry Birch, &c.

B. LENTA.—Leaves cordate, ovate, sharply serrate, acuminate; petioles and nerves hairy beneath on large trees.

Description.—This tree grows in low and swampy woods, and is found throughout the United States. It rises from twenty to forty feet in height, sending out many branches at the top. The leaves are ovate, the edges notched, upper surface smooth, the under ribbed and pale colored.

Properties and Uses.—The bark, in decoction, is tonic and astringent. It is useful in all complaints of the bowels, and in all cases of obstruction. Made into a sirup with peach-meats or cherry-stone meats, it is an excellent article to promote digestion, and to use as a general restorative. It enters into one of our preparations for bowel-complaints.

GENUS FAGUS.—Staminate flowers—ament roundish; calyx 5 or 6 cleft, bell-form; stamens 5 to 12. Pistillate flowers—calyx 4-toothed, setose; germs 2; nuts 2, enclosed in the calyx, becoming coriaceous, echinate.

NO. 318.—BEECH.

Common Names.—Red Beech, &c.

F. FERRUGINEA.—Leaves ovate-oblong, acuminate, pubescent beneath, coarsely toothed, at the base obtuse, sub-cordate-oblique; nuts ovate, acutely 3-sided.

Description.—The beech is a common forest-tree, found growing throughout the United States, and probably too well known to require a particular description.

Properties and Uses.—A decoction of the bark is used in diabetes. It is frequently employed by people in the southern states as a remedy in nocturnal incontinence of urine affecting children. A decoction of the leaves is also used with success in obstinate ulcers, various cutaneous diseases, and dyspeptic affections, accompanied with great prostration of strength, headache, and lowness of spirits.

"The beech-tree," observes the "Southern Religious Telegraph," "is said to be a non-conductor of lightning. So notorious is this fact, that the Indians, when the sky wears the appearance of a thunder-storm, leave their pursuits and take refuge under the nearest beech-tree. In Tennessee the people consider it a complete protection. Dr. Becton, in a letter to Dr. Mitchell, states that the beech-tree is never known to be struck by atmospheric electricity, while others are often shattered into splinters. May not a knowledge of this fact afford protection to many when exposed? And, if such are the qualifications of this tree, may it not be made useful as a protection to our dwellings?"

GENUS JUGLANS.—Staminate flowers—corol 6-parted; calyx 1-leaved, scote-form, mostly 5-parted; filaments 12 to 36. Pistillate flowers—corol 4-parted; calyx 4-cleft, superior; styles 1 or 2; nut rugose, furrows irregular.

NO. 319.—BUTTERNUT.

Common Names.—White Walnut, &c.

J. CINEREA.—Leaves numerous, brancheolate, serrate; base rounded, soft, pubescent beneath; petioles villous; nut oblong-ovate, roughly sculptured, edible; tree large.

Description.—The butternut-tree is very common in the United States, found growing in valleys and on mountains, and is too well known to need any further description.

Properties.—During the American revolution, when medicines were scarce, this article was brought into use by the physicians of the hospitals, and was esteemed by them an excellent substitute for the ordinary cathartics. The extract, prepared from the inner bark of the tree, is alone employed. When given uncombined with other articles, in doses of from fifteen to thirty grains, it operates as an active cathartic, without occasioning heat or irritation. It is thought to be very applicable in indigestion, as an aperient in habitual costiveness, for it is not so liable to leave the bowels in a costive state as are other cathartics. The bark for making the extract should be procured in May or June.

Employment.—It is given in the form of an extract, as indicated above, in doses of from fifteen to thirty grains.

GENUS QUERCUS.—Staminate flowers—calyx campanulate, lobed; corol none; stamina 5 to 10. Pistillate flowers—calyx campanulate, very entire, rough; corol none; style 1; stigmata 3; nut superior.

NO. 320.—WHITE OAK.

Q. ALBA.—Leaves annual, pinnatifid; the sinuses narrowed; segments oblong, without points.

Description.—The white oak is found growing abundantly in forests and open lands throughout the United States. It rises fifty or sixty feet in height, sending off numerous large branches. The leaves are lacerated, ribbed, having long foot-stalks. The fruit is conical, and surrounded at the base by a rough shell.

Properties.—Most and perhaps all the species of oak have a high degree of astringency, depending upon tannin, which they possess in great quantities, and on account of which they are extensively used in the preparation of leather. The white oak is one of the American species which is most esteemed for this property. The bark of the young branches is probably more astringent than that of the trunk, on account of the mass of dead cortical layers which constitute a part of the thickness of the latter. The *Quercus rubra* and the *Quercus tinctoria* possess almost identical qualities with the above species.

Oak-bark has been given in some instances as a substitute for cinchona, to which, however, it is greatly inferior. Its chief use is as an external astringent and antiseptic. A strong decoction is employed with advantage as a gargle in cynanche, and as a lotion in gangrenous ulcers, and offensive discharges of different kinds.

It is stated that the powder of this bark, by being inhaled, has cured pulmonary consumption. It is used by us in falling down of the uterus *(procedentia)*, *prolapsus ani*, leucorrhœa, and in all other diseases in which astringents are required. The extract is employed in hernia and ulcers. It is excellent as both a wash and injection.

Employment.—It forms the basis of the *Astringent Decoction* of our pharmacopœia. It also enters into Ferris's cancer-plaster, for cancers and inveterate ulcers.

Order XV. Monadelphia.—Bearing flowers with filaments united in one set.

GENUS CROTON.—Staminate flowers—Calyx cylindrical, 5-toothed; petals 5 or none; stamens 10 to 15. Pistillate flowers—calyx 5-leaved or none; corol none; styles 3 or 6, 2-cleft; capsule 3-grained, 3-celled, 3-seeded.

NO. 321.—CASCARILLA.

Common Names.—Cascarilla-bark Tree, &c.

C. ELEUTHERIA.—Leaves ovate-acuminate, entire, smooth, silvery, with orbicular scales beneath; racemes axillary or terminal; stem arborescent.

Description.—Cascarilla has been ascribed by different authors to different species of *Croton*. The stem is branched and covered with brown bark, of which the external coat is rough and whitish. The leaves are long, very narrow, somewhat pointed, entire, of a bright-green color on the upper surface, downy, and of a silvery whiteness on the under; they are placed alternately on short foot-stalks. The flowers are small, greenish, and disposed in long terminal spikes.

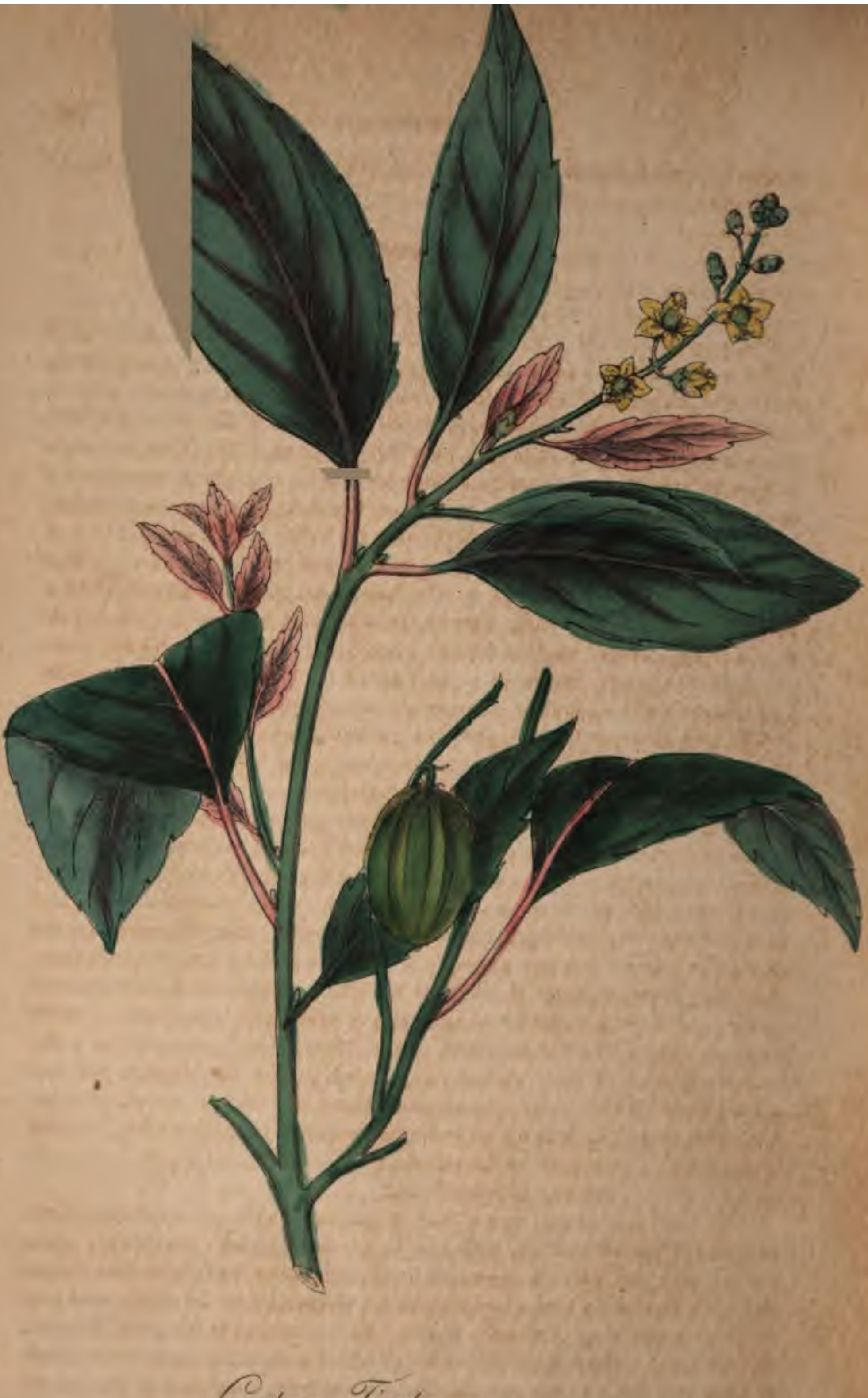
The *Croton eleutheria* grows wild in the West Indies, especially the Bahama islands, in one of which (the small island of Eleutheria) it is found so abundantly as to have received its name from that circumstance. It is called by Browne *seaside balsam*. The *Croton cascarilla*, of which we are now treating, is smaller than the preceding species, and is called by Browne the *small seaside balsam*. It is a native of the Bahamas, has been found abundantly in Hayti, and is said also to grow in Peru and Paraguay. Another species *(Croton lineare)* is the wild rosemary of Jamaica.

Cascarilla is brought to this market from the West Indies, chiefly from the Bahamas. It comes in bags or casks. We have observed it in the shops in two forms so distinct as almost to deserve the title of varieties. In one, the bark is in rolled pieces of every size, from three or four inches in length and half an inch in diameter to the smallest fragments, covered externally with a dull-whitish or grayish-white epidermis, which in many portions is partially, sometimes wholly removed, leaving a dark-brown surface, while the inner surface has a chocolate color, and the fracture is reddish-brown. The small pieces are sometimes curled, but have a distinct abrupt edge as if broken from the branches. The second variety consists entirely of very small pieces, not more than an inch or two in length, very thin, without the white epidermis, not regularly quilled, but curved more or less in the direction of their length, often having a small portion of woody fibre attached to their inner surface, and presenting an appearance precisely as if shaved by a knife from the stem or branches of the shrub. Whether these two varieties are derived from distinct species, or differ only from the mode of collection, or the part of the plant from which they are taken, it is difficult to determine.

Properties.—Cascarilla has an aromatic odor, rendered much more distinct by friction, and a warm, spicy bitter taste. It is brittle, breaking with a short fracture. When burnt it emits a pleasant odor, very closely resembling that of musk, but weaker and more agreeable. This property serves to distinguish it from all other barks. It was analyzed by Trommsdorff, and more recently by M. Duval, of Liseux, in France. The constituents found by the latter were albumen, a peculiar kind of tannin, a bitter crystallizable principle called CASCARILLIN, a red coloring matter, fatty matter of a nauseous odor, wax, gum, a volatile oil, resin, starch, pectic acid, chloride of potassium, a salt of lime, and lignin. The oil, according to Trommsdorff, constitutes 1·6 per cent., is of a greenish-yellow color, a penetrating odor analogous to that of the plant, and of the specific gravity 0·938. To obtain cascarillin, M. Duval treated the powdered bark with water, added acetate of lead to the solution, separated the lead by sulphuretted hydrogen, filtered, evaporated with the addition of animal charcoal, filtered again, evaporated again at a low temperature to the consistence of a sirup, allowed this to harden by cooling, and purified the matter thus obtained by twice successively treating it, first, with a little cold alcohol, to separate the coloring and fatty matters, and afterward with boiling alcohol and animal charcoal. The last alcoholic solution was allowed to evaporate spontaneously. Thus obtained, cascarillin is white, crystallized, inodorous, of a bitter taste, very slightly soluble in water, soluble in alcohol and ether, neuter in chemical relations, and without nitrogen. Either alcohol or water will partially extract the active matters of cascarilla; but diluted alcohol is the proper menstruum.

The medical properties of this bark are aromatic and tonic. It was known in Germany so early as the year 1690, and was much used as a substitute for Peruvian bark by those who were prejudiced against that febrifuge in the treatment of remittent and intermittent fevers. It has, however, lost much of its reputation, and is now employed only where a pleasant and gently stimulant tonic is desirable, as in dyspepsia, chronic diarrhœa and dysentery, flatulent colic, and other cases of debility of the stomach or bowels. For this purpose it is sometimes advantageously combined with the more powerful bitters.

Employment.—It may be given in powder or infusion. The dose of the former is from a scruple to half a dram, which may be repeated several times a day. In consequence of its pleasant odor when burnt, some smokers mix



Croton Tiglium

322

it in small quantity with their tobacco; but it is said, when thus employed, to occasion vertigo and intoxication.

NO. 322.—CROTON PLANT.

Common Names.—Purging Croton, &c.

C. TIGLIUM.—Leaves ovate-acuminate, serrate, glabrous; stem arboreus.

Description.—This plant is a native of Java and Ceylon, and is found in Malabar, China, Cochin-China, and the Molucca islands. Of nearly ninety species of the genus *Croton*, this is the only one that is purgative.

It is a low tree, seldom exceeding twelve or fifteen feet in height, with spreading branches, and covered with a blackish bark. The leaves are alternate, ovate-acuminate, serrated, and smooth, having two glands seated at the base, and supported on longish petioles. The flowers are in erect, simple, terminating racemes. In the male flowers the calyx is cylindrical and five-toothed; the corolla consists of five straw-colored petals, and there are from ten to fifteen stamina. In the female flowers the calyx is many-cleft, and reflected under the germen; there is no corolla, but there are three bifid styles. The capsule is trilocular and smooth, each cell containing one seed; the seeds are about the size of a hazel-nut, somewhat concave on one side, and convex on the other, of a brownish-yellow color.

The tree is pervaded throughout by an active purgative principle, which is probably analogous to that found in other plants belonging to the family of the *Euphorbiaceæ.* Rumphius says that the root is employed in Amboyna, in the dose of a few grains, as a drastic purge in dropsy; and, according to the same author, the leaves are so acrid that, when chewed and swallowed, they excite painful inflammation in the lips, mouth, throat, and along the whole course of the alimentary canal. The wood in small doses is said to be diaphoretic; in larger, purgative and emetic. But the seeds are the portion in which the active principle of the plant is most concentrated; these have long been employed throughout the whole of India as a powerful purgative, and were introduced so early as the year 1630 into Europe, where they were known by the names of *grana Molucca* and *grana tiglia.* But in consequence of their violent effects they passed into neglect, and had ceased to be ranked among medicines, when, at a recent period, attention was again called to them by the writings of some English physicians in India. They are now imported for the oil which they afford, and which is the only portion of the plant considered officinal.

The seeds are rather larger than a grain of coffee, of an oblong form, rounded at the extremities, with two faces, the external considerably more convex than the internal, separated from each other by longitudinal ridges, and each divided by a similar longitudinal ridge, so that the whole seed presents an irregular quadrangular figure. Sometimes, as in the grain of coffee, their internal surface is flat with a longitudinal groove, owing to the presence of only two seeds in the capsule, the groove being produced by the central column or axis. The shell is covered with a soft, yellowish-brown epidermis, beneath which the surface is black and smooth; and as the epidermis is often partially removed by friction during their carriage, the seeds as they come to us are frequently of a mottled appearance, and sometimes nearly black. The kernel or nucleus is of a yellowish-brown color, and abounds in oil. In India the seeds are prepared for use by submitting them to slight torrefaction, by which the shell is rendered more easily separable, and the acrid property thought to be mitigated. In the dose of one or two grains the kernel purges with great activity.

The oil is obtained by expression from the seeds, in general previously roasted, and deprived of the shell. It may also be separated by decoction in water, or by the action of ether, which dissolves the oil, and leaves it behind when evaporated. According to Dr. Nimmo, the seeds consist of 64 parts of kernel, and 36 of envelope, in the hundred; and the cotyledons yield 60 per cent. of oil.

Dr. Burrough, who was for some time in India, states that much of the croton-oil there prepared for exportation is derived from the seeds of a plant wholly different from the *Croton tiglium*. Dr. Griffith, of the University of Virginia, says that, from a parcel of these seeds presented to him by Dr. Burrough, he had succeeded in raising a plant which proved to be the *Jatropha curcas*, the seeds of which are known by the name of *Barbadoes nuts*. The oil is weaker than the genuine croton-oil, but is said by Dr. Burrough to be an efficient cathartic in the dose of three or four drops.

Properties.—Croton-oil, as usually found in the shops, is of an orange or reddish-yellow color, which is owing to the roasting of the seeds previously to expression, and varies more or less according to the greater or less duration of this process. When procured without roasting, it is very nearly colorless. Its smell is faint but peculiar, its taste hot and acrid, leaving in the mouth a disagreeable sensation which continues for many hours. The oil is wholly soluble in sulphuric ether and oil of turpentine, and partially so in alcohol. Dr. Nimmo ascertained that it consists of two portions: one acrid and purgative, amounting to 45 per cent., soluble in cold alcohol, and having an acrid reaction; the other a mild oleaginous substance like olive-oil, soluble in ether and oil of turpentine, and very slightly soluble in hot alcohol, from which it is precipitated when the liquor cools. The acrid portion consists of a resinous substance, and a very acrid volatile acid, for which Brande has proposed the name of *crotonic acid;* and a recent analysis of the oil has brought to light a new principle, which is called CROTONIN.

Croton-oil is a powerful hydragogue purgative, acting, for the most part, when given in moderate doses, with ease to the patient, but in large doses apt to excite vomiting and severe griping pain, and capable, if immoderately taken, of producing fatal effects. It acts with great rapidity, frequently evacuating the bowels in less than an hour, and generally exciting a rumbling sensation in half that time. It also possesses great advantage in the minuteness of the dose, on account of which it may frequently be given when we should fail with more bulky medicines, as in mania, coma, and the cases of children. A drop placed on the tongue of a comatose patient will generally operate; and it is stated by a French author that four drops, applied externally by friction around the umbilicus, will produce a purgative effect.

Though long used in India, and known a century ago to the Dutch physicians, this article did not attract general notice until about the year 1820, when it was introduced into England by Mr. Conwell. It is chiefly employed in cases of obstinate constipation, in which it often produces the happiest effects after the failure of other medicines; but it may also be advantageously employed in almost all cases in which powerful and speedy purging is demanded. Dropsy, apoplexy, mania, and visceral obstructions, are among the complaints in which it has been particularly recommended. The seeds are said to have been used with great success in India in amenorrhœa.

Applied externally, the oil produces inflammation of the skin, attended with a pustular eruption, and has been employed in this manner in rheumatism, gout, neuralgia, glandular and other indolent swellings, and in pulmonary diseases. For this purpose it should be diluted with three parts of olive-oil, soap-liniment, oil of turpentine, or other convenient vehicle, and applied in the way of liniment twice or oftener in the twenty-four hours. Sometimes the insusceptibility of the skin to its influence is such as to require its application undiluted.

Employment.—The dose for an adult is one or two drops, and is most conveniently administered in the form of pill. A very safe and convenient plan is to make two drops into four pills with crumb of bread, and to give one every hour till they operate. The oil may also be administered in emulsion. The form of tincture may be advantageously resorted to when a minute quantity of the medicine, as it affords the means of readily dividing the dose.

Adulterations.—It is thought that the croton-oil is often adulterated with other fixed oils; but, with the exception of castor-oil, they may be detected by their less degree of solubility in alcohol, while the latter is discoverable by its greater solubility. If cold alcohol dissolve less than 45 per cent. of a suspected sample, the presence of olive-oil may be inferred; if more, that of castor-oil. It would be difficult, however, to detect by this test a mixture of these two oils in certain proportions.

GENUS CURCUBITA.—Staminate flowers—calyx 5-toothed; corol 5-cleft; filaments 3. Pistillate flowers—calyx and corol like the staminate; pistil 3-cleft; pomaceous berry large, 3 to 5 celled; seeds thickened at the margin.

NO. 323.—PUMPKIN.

C. PEPO.—Leaves cordate, obtuse, sub-5-lobed, denticulate.

Properties and Uses.—The common pumpkin needs no description. The seeds are highly recommended, in decoction, as a diuretic. If the oil can be obtained, however, it is better. Dr. Smith states that he makes great use of this article. The dose may be from six to twelve drops three or four times a day, or oftener if required. "It is, perhaps," says the above author, "without exception, the most certain and efficient diuretic that we possess, relieving spasm of the urinary passages and scalding of urine."

GENUS STILLINGIA.—Staminate flowers—involucre hemispherical, many flowered, or wanting; perianth tubular, erose; stamens 2 or 3, exsert. Pistillate flowers—calyx 1-flowered, inferior; style 3-cleft; capsule 3-grained.

NO. 324.—QUEEN'S DELIGHT.

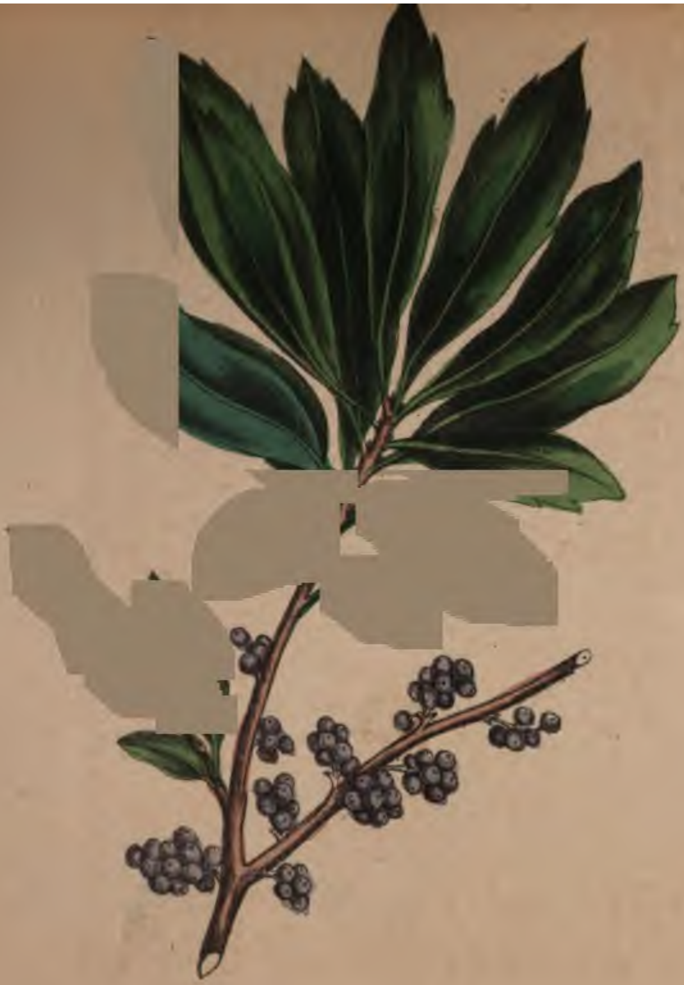
Common Names.—Cock-up-hat, Stillingia, Yaw-root, &c.

S. SYLVATICA.—Herbaceous; leaves sessile, lance-oblong, tapering at the base, serrulate; staminate florets scarcely longer than the bracteal scale.

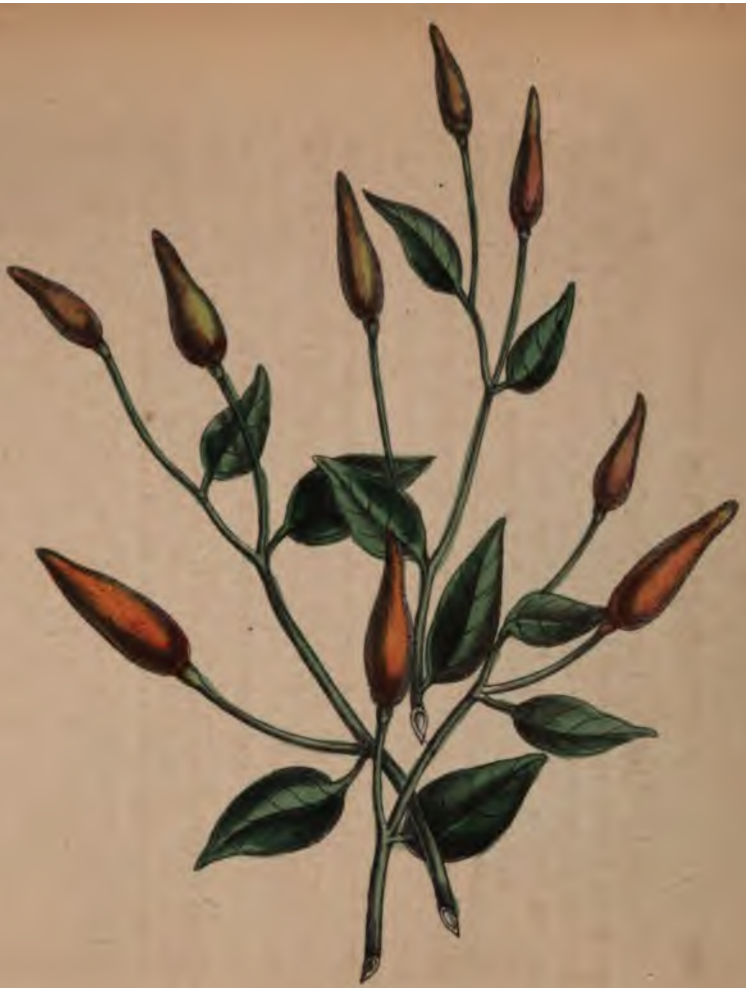
Description.—This plant is found from Virginia to Florida, usually preferring dry, open woods. It has a large, thick, woody, horizontal root, sending up a smooth, round, and lightish-colored stem, rising from one to three feet in height. The leaves are oblong or lanceolate, somewhat tapering at both ends, without foot-stalks, and bordered with very minute teeth. The flowers are yellow, and arranged in a terminal spike, making their appearance in May and June. The plant, when broken, emits a milky juice. It has various common names in different sections, such as queen's-root, cock-up-hat, and zanthoxylum.

Properties.—The bark of the root has a bitter and acrid taste, and has the reputation of being a valuable tonic, alterative, and diuretic. It is also purgative, if given in large doses. It is much employed in the southern states as a remedy in syphilis, gonorrhœa, gleet, affections of the kidneys, scrofula, and chronic diseases of the liver and skin. Dr. Comings, in speaking of this plant, says: "It will be well to exercise some caution in its use, as I find it very irritating to the fauces, and even the whole alimentary canal. It is perfectly safe, however, combined with some mucilaginous substance. I find it very valuable in the treatment of venereal disease, in all its forms, being a capital alterative and laxative. I have cured old cases of syphilis with this article in which other medicines had been used unsuccessfully for years."

Employment.—The tincture is prepared by macerating two ounces of the bark of the bruised root in a pint of alcohol. Of this, a teaspoonful or more is given two or three times a day. Dr. Woodruff says that from ten to twenty grains of the powder will operate briskly as a cathartic; but where an alterative effect is required merely, without an active movement of the bowels, from three to six grains is a sufficient dose.



Myrica cerifera



Capsicum baccatum

Claſs XX. Dioecia.—Stamens in flowers separate from the pistils, on separate plants. Pollen abundant.

Order IV. Tetrandria.—Bearing flowers with four stamens.

GENUS MYRICA.—Staminate flowers—ament oblong; calyx an ovate lunulate scale; corol none; stamens 4 to 6; anthers 4-valved. Pistillate flowers—calyx and corol like those of the staminate; stigma 2; drupe 1-seeded.

NO. 325.—BAYBERRY.

Common Names.—Candle-berry, Wax-berry, Wax-Myrtle, &c.

M. CERIFERA.—Leaves wedge-lanceolate, acute, with distant serratures at the apex; staminate aments lax, scales acute; fruit small, globose, covered with a whitish wax, in a mealy state; flowers green and purple. Var. *pumila*, leaves lance-linear.

Description.—This shrub grows on and near the seashore, from Maine to Georgia, in New England and Virginia very abundantly. It also grows about the great lakes between the United States and Canada, and in Tennessee, Alabama, and Mississippi; but that found near the seashore is thought to be strongest and best. The flowers, which are green and purple, appear about May.

Properties.—For removing canker from the system, in all chronic cases, this is an invaluable medicine. It is a powerful stimulant, though its effects on the sensitive organs are not to most persons so disagreeable as those of cayenne und some other stimulants. It is astringent and slightly mucilaginous, producing that kind of action in the system which generates heat, and is consequently very properly united with cayenne to raise the action in all cases of cold clamminess where there is much morbific matter in the system, in which cases it may be given strong and without limit as to quantity. In acute and high fever, where the skin is very dry and hot, and the pulse quick, full, and strong, it is not considered so good to promote perspiration, to relieve the oppressive superficial heat, and quiet the nervous system, as catnep, sage, balm, boneset, and many other cooling sudorifics. If given weak, however, and in a large quantity of fluid, it answers well, even in those cases where, to give it very strong, in small quantities of fluid, is objectionable, because it creates the excitement which produces thirst, without furnishing fluids to slake it.

The bark of the root is the strongest, but so great is the demand for it, that the whole should be collected, and the leaves also preserved, of all the shrubs that are dug up. These will be useful in less urgent cases. They should be kept distinct, and properly labelled. They will be found very useful in poultices for old canker-sores, scrofulous tumors, &c. A constant drink of bayberry and sumach bark is excellent for scrofula in almost any stage.

I know of but the case previously mentioned where it is improper, and it is so there only because it is less valuable than some other articles. Being astringent and stimulant, it is not so suitable, when the skin or the mucous membrane is already contracted and excited, as articles that relax and lubricate. In all other cases it tends to promote every secretion, and is, of course, good to remove canker from every obstructed organ or tissue of the system.

Employment.—The bark is used in infusion and decoction, and in poultice for scrofulous ulcers, as previously indicated.

NO. 326.—MEADOW-FERN.

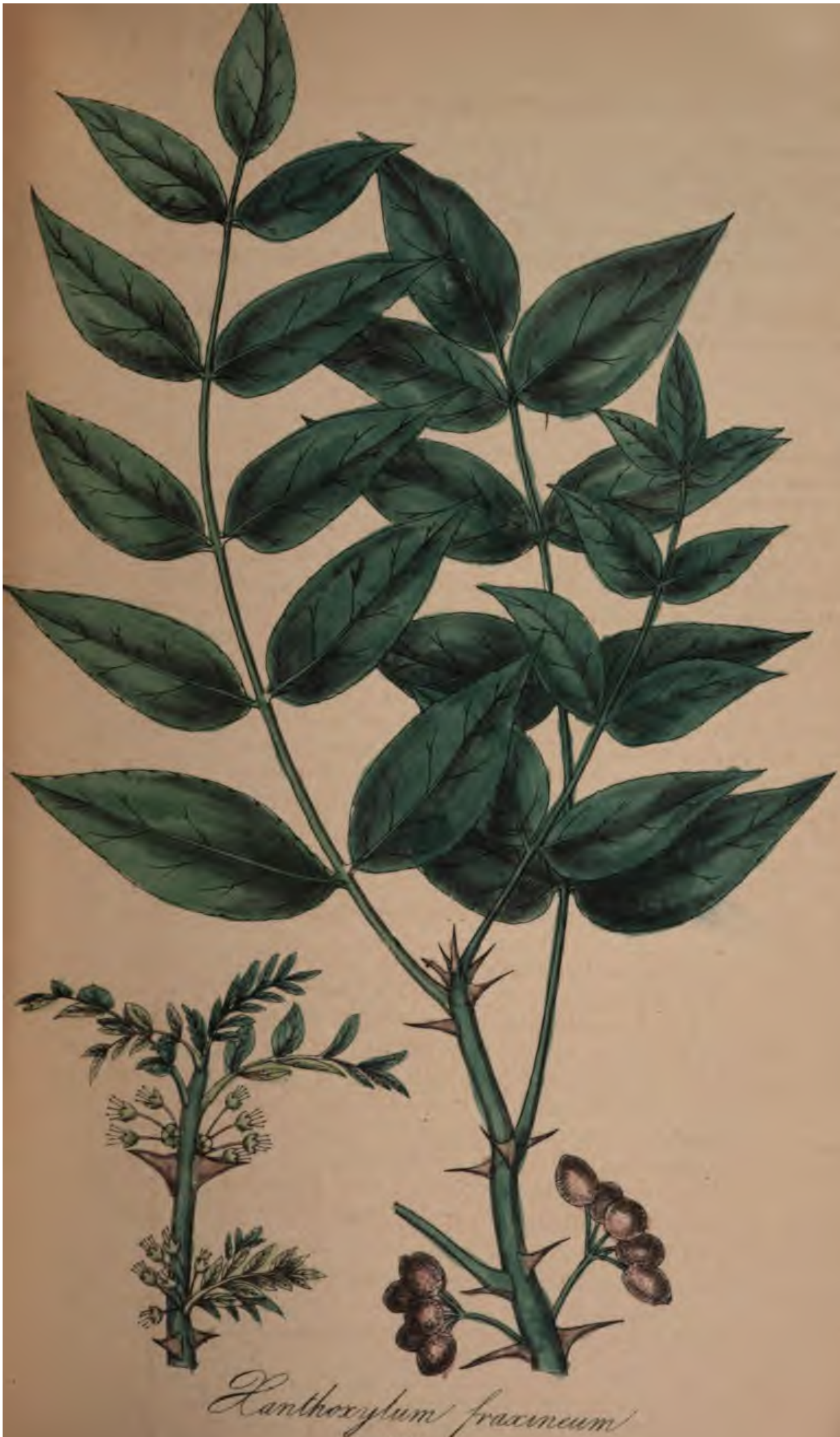
Common Names.—Sweet Gale, Bog-Myrtle, Dutch Myrtle, &c.

M. GALE.—Leaves wedge-lanceolate, serrate at the apex, obtuse, sterile; aments imbricated; scales acuminate, ciliate; fruit in scaly heads, with a strong aromatic odor.

Description.—The meadow-fern is to be found in wet meadows and about the edges of ponds and streams, where it often grows in large beds or patches. The stem is much branched, from two to five feet high, and covered with a reddish bark. The leaves are narrow at the base, increasing in width toward the end, and bordered with a few remote teeth. During the summer, small buds may be observed to form on the male shrub, which expand about the first of the ensuing May into long, scaly-looking flowers. On the fruitful shrub the flowers present a different appearance, and are succeeded by small green burs or seed-vessels which grow in clusters upon the branches.

This plant is abundant in Massachusetts and Connecticut, but is rare in many of the other states, although it has a tolerably wide geographical range. The burs attain their full size about the middle of August, when they should be collected and carefully dried. Rubbed upon the skin, they stain it yellow. The leaves are used in some parts of Scotland instead of hops, for the making of beer. In Sweden the inhabitants employ them in curing the itch.

Properties and Uses.—The meadow-fern burs have a fragrant odor, and an aromatic, bitter, and pungent taste. Infused in spirit, they make a yellow tincture, which is used in some parts of New England as a tonic or restorative. They are particularly valuable as an external application in itch, poison, and all troublesome humors or eruptions, and may be employed in the form of ointment. The decoction, sweetened with honey, and taken in the quantity of a teacupful three times a day, is also beneficial in the above complaints, having the effect to invigorate the stomach, purify the blood, and restore the skin to a healthy tone. Dr. Mattson states that he has frequently recommended it as an injection into the urethra, in gonorrhœa and gleet, and always with good results.



Xanthoxylum fraxineum

GENUS VISCUM.—Staminate flowers—calyx 4-parted; corolla none; anthers sessile, adhering to the calyx. Pistillate flowers—calyx 4-leaved, superior; corolla and style none; berry 1-seeded, globose; seed cordate; parasitic.

NO. 327.—MISTLETOE.

V. VERTICILLATUM.—Branches opposite and whorled; leaves wedge-ovate, 3-nerved; spikes axillary, a little shorter than the leaves; berries yellowish-white.

Description.—This is a parasitical plant, something like a large bush; it grows on various trees, but that which is found on the oak is chiefly used. The branches are regularly forked, leaves ending obtuse, in pairs. The berries are white, smooth, globular, and clustered, remaining on throughout the winter, and containing one fleshy seed. The plant should be separated from the oak about the last of November, carefully dried, ground into a fine powder, and confined in a bottle well stopped.—The mistletoe is the sacred plant of the Druids.

Properties.—Mistletoe has been recorded as an efficacious remedy in epilepsy by many eminent physicians, both ancient and modern. The reason why it has failed in the later trials of some practitioners is probably because they did not prescribe a sufficient quantity, or because it had been long exposed to the air, and lost its virtues.

Employment.—To begin with, the dose may be a teaspoonful four times a day, in valerian-tea, increasing it to two or three teaspoonfuls, according to its effects.

Order V. Pentandria.—Bearing flowers with five stamens.

GENUS XANTHOXYLUM.—Staminate flowers—calyx 5-parted; corolla none; stamens 3 to 6. Pistillate flowers—pistils 3 to 5; capsules equal to the number of pistils, 1-seeded.

NO. 328.—PRICKLY ASH.

Common Names.—Toothache-Tree, &c.

X. FRAXINEUM.—Prickly; leaves pinnate; leaflets lance-oval, sub-entire, sessile, equal at the base; umbels axillary.

Description.—This is a tall shrub, indigenous to the southern states, and is found plentifully in the middle states, in meadows and low, moist ground. The bark is thin, gray externally, and yellowish-white internally; its taste is pungent, aromatic, and exciting a copious discharge of saliva.

Properties.—Dr. Staples obtained from the bark a crystalline substance analogous to PIPERIN, united with an oil possessing all the aroma, acridity, and warmth, of the Peruvian bark. The bark and berries are chiefly used in medicine. The fresh leaves are also valuable. When rubbed, they are oily and aromatic. The bark possesses very energetic stimulant and diaphoretic properties, analogous to those of mezereon-bark. It is a popular medicine, and often exhibited in practice as a remedy in chronic rheumatism, in which affection we employ both the bark and berries. It is said that by a protracted internal use it has in several instances produced salivation. It is recommended in malignant ulcers, both as an internal and external remedy, and several cases in testimony of its efficacy in this respect are related in the London "Medical and Physical Journal," and in the "Transactions of the London Medical Society." Prickly ash is a valuable article, and should be used much more than it is by all who can gather and prepare it.

Employment.—The powder is given in doses of ten, twenty, and even thirty grains. Of the decoction, prepared by boiling an ounce of the bark in a quart of water until it is reduced one third, the doses are two or three ounces in as many hours. The tincture of the bark and capsules is a popular drink in chronic rheumatism.

GENUS HUMULUS.—Staminate flowers—calyx 5-leaved; corol none; anthers with two pores at the top. Pistillate flowers—calyx an oblique, entire scale; corol none; styles 2; seed single-coated, the head strobile-form.

NO. 329.—HOPS.

H. LUPULUS.—Stem twining, rough; leaves petiolate, 3 to 5 lobed, acute, sharply serrate, rough: staminate flowers panicled.

Description.—The hop is a perennial plant, indigenous to Europe, springing up spontaneously along hedges. It is likewise cultivated on a large scale, for the manufacture of ale and for other uses, in the north of France, and in Flanders, England, and the United States.

It is an ornamental plant, climbing to a great height; the root is perennial; the stems are annual, twining around the poles set for them, angular, and covered with rough, minute prickles. The leaves are opposite, on long, winding petioles; the smaller ones are heart-shaped, the longer ones three or five lobed, veiny, serrated, and extremely rough. The flowering-branches are rough and axillary; the flowers are numerous, and of a greenish color; the stamens are short, the anthers oblong, and bursting by two terminal pores.

Properties.—The fruit of the hop is composed of foliaceous and persistent scales, and covered with small hair, charged with a kind of dust called LUPULIN. It is of a greenish-yellow color, and possesses an aromatic and bitter matter. According to MM. Payen and Chevallier's analyses, this substance is composed of resin, 105 parts; bitter matter, 25; essential oil, 41; gum; a small quantity of fatty matter and osmazome; some acetate of ammonia, silica, sulphur, oxyde of iron, and salts, with base of potassa and lime. It is soluble in water, alcohol, and ether. It is obtained by rubbing the cones of the hops on a sieve: the lupulin passes through, and is received on a piece of paper. It is purified by immersing it in water. This article possesses the same properties as the hops, but in a much greater degree.

In too large doses, it produces a sensation of heat in the epigastric region, and throughout the abdominal parts, with pain in the abdomen, costiveness, nausea, vomiting, &c.

Independently of lupulin, hops contain, according to MM. Payen and Chevallier, a volatile oil, a fatty matter, wax, some acetate of ammonia, malate of lime, tannin, gallic acid, and a small quantity of osmazome. Boiling water, alcohol, and ether, dissolve the active principles of this plant.

"It is an agreeable bitter, anodyne, diuretic remedy," says Dr. E. Smith, "though its virtues are not properly appreciated. The extract or tincture of hops may be advantageously substituted for opium in most cases, as it possesses its anodyne qualities, without the narcotic, and it may be given in many cases where opium can not be employed. In consumptions, particularly, it is preferable, as it gives ease, without any deleterious effects. It has been employed with success in jaundice, indigestion, hypochondriac passions, venereal complaints, worms, &c."

In the form of tincture, I have given it with success in inflammation of the bowels. A strong infusion or decoction of the hops is very useful in some forms of dyspepsia attended with nervous irritation and loss of tone in the stomach and bowels; in such cases it acts as a tonic and sedative. It is also employed successfully in advanced stages of typhoid fevers, where nervous tremors and twitching of the tendons *(subsultus tendinum)* exist. I have likewise used it with success in the after-pains of women, thereby allaying the spasmodic uneasiness of the uterus. It is well adapted to drunkards, and I have found it a useful auxiliary in the treatment of *mania à potu*.

A bag, filled with warm hops, and placed under the head, is a popular remedy to quiet nervous irritation and procure sleep. In fomentations they are exceedingly valuable, and for this purpose are excellent in inflammatory fevers, and especially in pleurisies, where they afford the most agreeable relief.

Employment.—The hop may be administered in tincture, decoction, infusion, or pills made of the extract. As a tonic, the infusion (of which a wineglassful may be taken) is the best. The extract is made by boiling the strength to a thin sirup, and then evaporating it till it becomes thick, when it should be put in a pot and covered with alcohol to prevent its moulding. The dose is from five to ten grains, in pills, to be taken three times a day, fasting.

"All the effects of the preparations of hops," says Wood, "may be obtained with greater certainty and convenience by the use of *lupulin*. The dose in substance is from six to twelve grains, given in the form of pills, which may be made by rubbing the powder in a warm mortar till it acquires the consistence of a ductile mass, and then moulding it into the proper shape."

It is said that the Spaniards boil a pound of the hop-roots in four quarts of water down to three quarts, and drink half a pint warm in the morning when in bed, for the venereal.

Order VI. Hexandria.—Bearing flowers with six stamens.

GENUS COCCULUS.—Sepals and petals arranged in a double series, very rarely in a triple series; stamens 6, free, opposite to the petals; carpella 3-6; fruit drupaceous, reniform, rather compressed, 1-seeded; cotyledons distant.

NO. 330.—IMPORTED COLUMBO.

Common Names.—Calumba, &c.

C. PALMATUS.—Leaves cordate, 5 to 7 lobed; lobes entire, acuminate, somewhat hairy on both sides; stem and germens clothed with glandular hair.

Description.—There are few articles of the materia medica more generally esteemed than columbo-root. It is procured from a plant of the natural order of the *Menispermeæ*, and was formerly erroneously supposed to derive its name from Columbo, the principal town in the island of Ceylon, which was regarded as its native country. Among the Africans its name is *kalumb.* It is spelt *kalumbo* by the Portuguese, in whose language the *o* is mute; and from this, Dr. Berry, of England, tells us, the name originated by which this valuable root is known in Europe. It is a staple export of the Portuguese from Mosambique; and when we consider the quantity exported, it is certainly a remarkable circumstance that its native country should have been so long unknown. It is, however, now ascertained to grow naturally and in abundance in the thick forests that are said to cover the shores about Oibo and Mosambique, on the east coast of Africa, and inland for about fifteen or twenty miles.

The root of this plant is thick, fibrous, and composed of fusiform ramifications. It is found in commerce in sections of about an inch and a half in diameter, or in pieces two or three inches long, covered with a thick and yellowish bark, easily detached, and having a rugose epidermis of a brown or olive color. The parenchyma is of a spongy texture, of a greenish-yellow color, presenting several concentric zones. Its taste is bitter, and its smell unpleasant.

Properties.—Columbo, according to M. Planch, contains of starch 33 parts; gum, 9; a principle containing nitrogen, 6; a yellow bitter matter, 13; a little volatile oil; some salts of lime and potassa; aome oxyde of iron; silica and lignin.

This article is possessed of a bitter quality, without any astringency or acrimony; but if it is given in too large doses, it is apt to nauseate. When administered in proper quantities, it acts as a tonic, giving strength to the stomach and intestinal canal, without stimulating, and on that account it is very useful in hectic fever. In dyspeptic complaints it exerts its greatest benefits, and is one of the best tonics which we can employ in those cases. Dr. Eberle administered this article, in union with ipecacuanha, with marked advantage, in dyspepsia. He gave ten or twelve grains of columbo with two of ipecacuanha.

Employment.—Columbo may be administered in the forms of powder and infusion. The dose of the powder is from twelve to fifteen grains. The infusion is prepared by adding from one to two drams of the root to a pint of boiling water. This article enters into the *Restorative Cordial* of our pharmacopœia.

GENUS DIOSCOREA.—Staminate flowers—calyx 6-parted; corolla none; styles 3; capsules 3-celled, triangular, compressed; cells 2-seeded; seeds with membranaceous margins.

NO. 331.—YAM-ROOT.

Common Names.—China-root, &c.

D. villosa.—Leaves alternate, opposite, verticillate, cordate, acuminate, pubescent beneath, 3-nerved.

Description.—This plant merits a place in all the works devoted to the subject of medical botany. It is found in nearly every part of the United States, in shady locations, growing to the height of several feet. It has an herbaceous stem, or rather it might be considered a vine; the roots bear a strong resemblance to some of those of the brier kind, being woody, tough, and knotty, and of a pretty uniform thickness. For medical employment, the root should be collected in July or August, and dried well in the shade.

Properties.—It seems to possess strong anti-spasmodic and anodyne, as well as some diaphoretic and anti-emetic properties. The knowledge of its medical virtues was obtained from Dr. Bone, a celebrated botanic physician of New Jersey, who used it secretly for many years as a remedy for bilious colic, and who was eminently successful in the treatment of this painful and truly formidable disease. I have had numerous opportunities of testing its virtues in the cure of this complaint, and do not hesitate to recommend it to the favorable notice of medical practitioners generally as an article possessing properties which especially adapt it to the treatment of the above affection.

Employment.—It is used in decoction, made by pouring a pint of boiling water on two ounces of the bruised root, simmering it very slowly for half an hour, and then straining it. For bilious colic, half a teacupful should be given every twenty minutes, as warm as the patient can bear it, until relief is obtained, by checking vomiting and relaxing the system. It seldom fails to produce its beneficial effects in less than an hour after it is taken. The application of a large mustard-plaster over the abdomen assists its action.

GENUS SMILAX.—Staminate flowers—calyx 6-leaved, inferior; corol none; anthers adhering to the filaments. Pistillate flowers—calyx 6-leaved, inferior; corol none; styles minute, 3; berry 3-celled, 1 to 3 seeded.

NO. 332.—JACOB'S LADDER.

S. peduncularis.—Stem terete, climbing or arching over; leaves round-ovate, cordate, acuminate, about 9-nerved; umbels long-peduncled.

Description.—This plant grows on rich soils in bushy places. A single, smooth, vine-like stalk, four or five feet and sometimes more in height, sends off branches in various directions, which become attached to shrubbery, &c., near by. The root is irregular, contorted, branched, long, and woody, and has many circular depressions on its sides, like those on Solomon's seal.

Properties and Uses.—The infusion, drank freely, is employed as a strong diuretic, and is very good in affections of the bladder. It is said likewise to possess superior and efficacious lithontriptic properties.

NO. 333.—SPANISH SARSAPARILLA.

S. SARSAPARILLA.—Prickly; leaves unarmed, lance-ovate, retuse, with a point sub-5-nerved.

Description.—This plant is indigenous to South America, growing spontaneously in Peru and other parts of that continent, and also in Mexico and the Spanish West Indies.

The stem is articulate, branchy, furnished with recurved thorns; the leaves are alternate, tough, cordiform, furnished with two tendrils at their base. The flowers are greenish, diœcious, in small simple umbels upon a common pedicel; calyx six-divided: male flowers with six stamina; female flowers having one ovary with three monospermous cells; three stigmas. The fruit is a round berry, of a reddish color, containing three seeds. The root is fibrous, several feet long, and of the size of a quill; the bark is wrinkled, reddish-gray externally, white internally, and of a pink color; it is inodorous, mucilaginous, and bitter.

Properties.—The root contains a peculiar proximate principle, discovered by Pallota, and called PARILLIN; it is white, pulverulent, and heavier than distilled water. Pallota also found the root to contain fecula, mucilage, and albumen. Boiling water and alcohol take up its active principles.

This root was first introduced into Europe by the Spaniards, about the year 1563, with the character of being a specific in venereal complaints, particularly in *lues venerea*, a disease which had made its appearance in that continent a little before the period alluded to; but, upon its being administered alone, it was found incompetent to effect a cure. It has since that time caused much speculation in the medical world. This root, however, united with sudorifics, is much used at present in chronic rheumatism, syphilis, and diseases of the skin. It is one of the component parts of "Swaim's Panacea," which is said to have wrought so many wonderful cures, and into almost all the panaceas and catholicons of the day it enters as an ingredient. We make much use of this article in our practice, as an alterative, &c. It enters into the *Alterative Sirup* of our pharmacopœia, which is very beneficial in many complaints.

Employment.—The dose of the powdered root is from half a dram to a dram. The decoction is made by adding from half an ounce to four ounces of the root to a quart of water.

Order VIII. Octandria.—Bearing flowers with eight stamens.

GENUS POPULUS.—Staminate flowers—ament cylindric; calyx a torn scale; corolla turbinate, oblique, entire, supporting 8 to 30 stamens. Pistillate flowers—ament, calyx, and corolla, like those of the staminate; stigma 4 or 6 lobed; capsule 2-celled, 2-valved, many-seeded; seed with egret-like hairs; leaves having a tremulous motion.

NO. 334.—AMERICAN BALM OF GILEAD.

Common Names.—Balsam Poplar, &c.

P. BALSAMIFERA.—Leaves ovate-acuminate, with close-pressed serratures, white and net-veined beneath; buds resinous.

Description.—This is a well-known tree, indigenous to this country, and growing spontaneously. It is also extensively cultivated as a shade-tree.

Properties.—The buds are, in common with those of most of the poplars, possessed of valuable medicinal qualities, but those of this species are by far the best. They are gathered in the fall of the year, and are filled with a rich balsamic gum, which is good in coughs and debility.

The genuine balm of Gilead is the resinous juice of the *Amyris gileadensis* of Linnæus, the *Balsamodendron gileadense* of Kunth; a small evergreen tree, growing on the Asiatic and African shores of the Red sea. It was in high repute with the ancients, and still retains its value in the estimation of the eastern nations, among whom it is employed both as a medicine and cosmetic. In western Europe and in this country it is seldom found in a state of purity, and its use has been entirely abandoned.

Employment.—To one ounce of the bruised buds add one pint of fourth-proof spirits. The dose is from a teaspoonful to a tablespoonful, three or four times a day, in sweetened water. It is likewise excellent for cuts and wounds. The extract enters into the *Cough Pills.*

NO. 335.—WHITE POPLAR.

Common Names.—Aspen, Quaking Aspen, Quiver-leaf, &c.

P. TREMULOIDES.—Leaves heart-roundish, abruptly acuminate; tooth-serrate, glabrous, a little pubescent at the margin, with two glands at the base on the upper side; petioles compressed, in the young state silky.

Description.—The white poplar is a common tree in most parts of the country, growing to various sizes, some trees being large enough for sawing into timber. The leaves are round, smooth, and jagged; and the petioles or foot-stalks being flattened transversely with the surface of the leaves, the least breath of air agitates and keeps them in motion, and hence quaking aspen and several of its common names.

Properties and Uses.—The bark of this tree affords one of the finest of tonics. It may be used in powder, decoction, or tincture, for diarrhœa, obstructions of the urine, indigestion, faintness at the stomach, consumption, and worms. The bark may also be pulverized and compounded with other tonics, and employed in all cases.

Order XII. Decandria.—Bearing flowers with ten stamens.

GENUS MENISPERMEUM.—Staminate flowers—calyx 6-leaved, somewhat 2-bracted, caducous; petals 6 to 9, glandular, minute, retuse; stamens 16, 20, or 24; anthers 4-lobed, 2-celled, adnate to the filaments. Pistillate flowers—calyx and corol like those of the staminate; germs and styles 3 to 6; berries mostly 1-seeded; nut woolly, lunulate, compressed.

NO. 336.—YELLOW PARILLA.

Common Names.—Vine-Maple, Moonseed, &c.

M. CANADENSE.—Stem climbing; leaves sub-cordate, round-angled, peltate, with the petiole near the base; racemes compound; petals 8. Var. *lobatum*; leaves lobed.

Description.—The root of this plant is perennial, horizontal, very long, yellow, and woody, with somewhat jointed fibres issuing from each joint. The stem is a woody vine, from three to six feet high, small, of a dark-green color, twining around whatever may come in contact with it. The leaves are scattered, very broad, round-cornered, somewhat resembling the maple-leaf. It grows in rich and often moist lands, near streams, &c.

Properties.—The root of the yellow parilla is a pleasant bitter tonic and laxative. It is useful in all cases of debility, strengthens the nervous system, and is very good for worms. This article has also acquired much popularity in many sections as a remedy in both the venereal and mercurial diseases, and there seems to be no doubt that it is highly valuable in these complaints. In the following extract from Dr. Gunn's "Domestic Medicine," the author undoubtedly alludes to the yellow parilla, although he calls it *sarsaparilla*, and thinks it (erroneously) the same as the imported article sold under that name. "It may be considered," says he, "as one of the most valuable roots in the western country, and, although possessing great power, is entirely innocent. It ought most certainly to be used in all cases where mercury has had any effect on the system, or in which there is the least doubt that any infection lurks in it connected with venereal." We will also add that by some it is considered a specific in this loathsome disease; at any rate, it is as good as the sarsaparilla, or better, for any case where the latter is indicated.

Dr. L. E. Jones, an excellent physician of our school, makes the following judicious remarks on this plant: "I regard this article as one of no ordinary value, notwithstanding the authors of the United States Dispensatory, together with Dunglinson, Eberle, and others, have not seen proper to give it even a passing notice. The medical properties of this article are alterative, tonic, and diaphoretic. As an alterative and diaphoretic, I have found this agent very useful in chronic cutaneous diseases, herpetic affections, &c., of whatever character; and so far as my experience goes, I think it more than a substitute for the imported sarsparilla. I direct it to be freely used in form of a strong sirup and strong decoction, and at the same time direct it to be freely and frequently applied to the surface as an embrocation.

It is also very useful in arthritic and rheumatic complaints, in the form of a saturated tincture, and at the same time make constant use of a strong decoction of the same as an internal remedy. As a tonic and alterative it has proved very serviceable in dyspepsia; it gives tone to the digestive organs, and thus facilitates chymifaction and chylification. As an alterative, tonic, and diaphoretic, it is highly valuable in shattered conditions of the system from mercury.

"When that corrosive poison has been administered and produced its deadly influences upon the constitution; in short, when it has produced *mercurial cachexia*, which is one of the worst of *cachexias*, by destroying the functions of the solids, and injuring the healthy quality of the fluids, this article will be found a very valuable remediate measure for the purpose of counteracting these effects. The same may be said of it in syphilitic diseases. When that virus has contaminated the solids as well as the fluids, and produced what may be properly termed a *venereal cachexia*, this article is invaluable for purifying the blood, and correcting the morbid condition of the system. In all such cases it is preferable to the imported sarsaparilla, for it supports and sustains the system when that remedy would exert but a very feeble influence; and as an alterative, that article is not its equal. A wineglass of the sirup should be prescribed five or six times daily, and at the same time direct the free use of a strong decoction."

Employment.—The manner of using the yellow parilla is shown above. It may be taken alone, or combined with other articles.

GENUS DIOSPYRUS.—Male: calyx 4 to 6 cleft; corolla urceolate, 4 to 6 cleft; stamens 8 to 16; filaments often producing two anthers. Female: flower as the male; stigmas 4 or 5; berry 8 to 12 seeded.

NO. 337.—PERSIMMON.

Common Names.—Seeded Plum, &c.

D. VIRGINIANA.—Leaves ovate-oblong, acuminate, glabrous, reticulate-veined; petioles pubescent beneath; buds glabrous.

Description.—The persimmon is an indigenous tree, rising in the southern states in favorable situations often to the height of sixty feet, with a trunk eighteen or twenty inches in diameter, but seldom attaining more than half this size near its northern limits, and frequently no greater altitude than fifteen or twenty feet.

The stem is straight, and in the old tree covered with a furrowed blackish bark. The branches are spreading; the leaves ovate-oblong, acuminate, entire, smooth, reticulately veined, alternate, and supported on pubescent foot-stalks. The buds are smooth. The male and female flowers are on different trees; they are lateral, axillary, solitary, nearly sessile, of a pale-orange color, and not conspicuous. The fruit is a globular berry, of a dark-yellow color externally when perfectly ripe, and containing numerous seeds embedded in soft yellow pulp. This tree is very common in the middle and southern states; but, according to Michaux, does not flourish beyond the forty-second degree of north latitude. The flowers appear in May or June, but the fruit is not ripe till the middle of autumn.

Properties and Uses.—While in the green state, the fruit is excessively astringent; but when perfectly mature, and after having been touched by the frost, it is sweet and palatable. Michaux states that in the southern and western states it is made into cakes with bran, and used for preparing beer with the addition of water, hops, and yeast. A spirituous liquor may be obtained by the distillation of the fermented infusion.

The unripe fruit has been used by Dr. Mettauer, of Virginia, in diarrhœa, chronic dysentery, and uterine hemorrhage. He gave it in infusion, sirup, and vinous tincture, prepared in the proportion of about an ounce of the bruised fresh fruit to two fluid ounces of the vehicle, and administered in the dose of a fluid dram or more for infants, and half a fluid ounce or more for adults. The bark is the only part generally used. It is astringent and very bitter, and is said to have been employed advantageously in intermittents, and in the form of a gargle in ulcerated sore throat.

Order XV. Monadelphia.—Filaments united in one set—the same as in Class XV.

GENUS JUNIPERUS.—Staminate flowers—calyx, the scales of an ament; corol none; stigmata 3. Pistillate flowers—calyx, the scales of an ament, fewer, becoming fleshy, united into a 3-seeded berry.

NO. 338.—JUNIPER.

J. COMMUNIS.—Leaves in threes, spreading, spinous, mucronate, longer than the berries.

Description.—This shrub is indigenous to Europe, but naturalized in this country, and grows in abundance in the state of New York, on the banks of streams, &c. It is also common in the neighborhood of Philadelphia. It rises about four feet in height; the leaves are numerous, long, sharp-pointed, of a deep-green color, and standing three together without foot-stalks; the stem is straight and ramose; the leaves are verticillate, ternate, pungently acute. The flowers are diœcious, in axillary aments: male flowers with scales in the form of a nail, bearing on their internal surface anthers globular and sessile: female flowers with the involucrum fleshy, globular, three-parted. The fruit consists of globular berries of the size of a pea, and containing two or three small, muciform, triangular seeds. This shrub flowers in June, and the berries, which are the part used, are ripe in August.

The plant described by Bigelow, under the title of *Juniperus communis*, and very common in some parts of New England, deserves perhaps to be considered a distinct species. It is a trailing shrub, seldom more than two or three feet in height, spreading in all directions, throwing out roots from its branches, and forming beds which are often many rods in circumference. The name of *Juniperus depressa* has been proposed for it.

All parts of the common juniper contain a volatile oil, which imparts to them a peculiar flavor. The wood has a slight aromatic odor, and was formerly used for fumigation. A terebinthinate juice exudes from the tree and hardens on the bark. This has been erroneously considered as identical with SANDARACH. The peasantry in the south of France prepare a sort of tar, which they call "*huile de cade*," from the interior reddish wood of the trunk and branches, by a distillation *per descensum*. It is a brownish thick liquid, of a strong tar-like smell, and is used internally for worms, and externally in scabies and various scaly eruptions.

The berries, as the fruit is commonly called, are sometimes collected in this country, and parcels are occasionally brought to the Philadelphia and New York markets from New Jersey; but, though equal to the European in appearance, they are inferior in strength. The best come from the south of Europe, particularly from Trieste and the Italian ports. They are globular, more or less shrivelled, and about as large as a pea; marked with three furrows at the summit, and with tubercles from the persistent calyx at the base; covered with a glaucous bloom, beneath which they are of a shining blackish-purple color; and containing a brownish-yellow pulp, and three angular seeds.

Properties.—The berries have an agreeable, somewhat aromatic odor, and a sweetish, warm, bitterish, slightly terebinthinate taste. These properties, as well as their medical virtues, they owe chiefly to an essential oil, which may be separated by distillation. The other ingredients, according to Trommsdorff, are resin, sugar, gum, wax, lignin, water, and various saline substances. The proportion of these ingredients varies according to the greater or less maturity of the berries. The volatile oil is most abundant in those which have attained their full growth and are still green, or in those which are on the point of ripening. In the latter, Trommsdorff found one per cent. of the oil. In those which are perfectly ripe, it has been partly changed into resin; and in those quite black, completely so. The berries impart their virtues to water and alcohol. They are very largely consumed in the preparation of gin.

The tops of juniper are employed to a greater extent in Europe than in this country. Their odor is balsamic, their taste resinous and bitterish, and they possess similar virtues with the berries.

Juniper-berries are gently stimulant and diuretic, imparting to the urine the smell of violets, and producing occasionally, when very largely taken, disagreeable irritation in the urinary passages. They are chiefly used as an adjuvant to more powerful diuretics in dropsical complaints; but have been recommended also in scorbutic and cutaneous diseases, catarrh of the bladder, and atonic conditions of the alimentary canal and uterus.

Employment.—The berries may be given in substance, triturated with sugar, in the dose of one or two drams, repeated three or four times a day. But the infusion is a more convenient form. It is prepared by macerating an ounce of the bruised berries in a pint of boiling water, the whole of which may be taken in the course of twenty-four hours. Extracts are prepared from the berries, both bruised and unbruised, and given in the dose of one or two drams; but, in consequence of the evaporation of the essential oil, they are probably not stronger than the berries in substance.

NO. 339.—SAVINE.

J. SABINA.—Leaves opposite, erect, decurrent; the oppositions closed.

Description.—Savine is an evergreen shrub, a native of Siberia, Tartary, the southern parts of Europe, and of North America. It grows in the neighborhood of the great lakes, and is plentiful in New York and New Jersey.

The stem rises from three or four feet to fifteen feet in height, with numerous erect, pliant branches, very much subdivided. The bark of the young branches is light-green, that of the trunk rough and reddish-brown. The leaves, which completely invest the younger branches, are numerous, small, erect, firm, smooth, pointed, of a dark-green color, glandular in the middle, opposite, and imbricated in four rows. The flowers are male and female on different trees. The fruit is a blackish-purple berry, of an ovoid shape, marked with tubercles, the remains of the calyx and petals, and containing three seeds. The ends of the branches, and the leaves by which they are invested, are collected for medical use in the spring. When dried, they fade very much in color.

Properties.—The leaves and tops of this plant have a moderately strong smell of the disagreeable kind, and a hot, bitterish, acrid taste. They give out a great part of their active matter to watery liquors, and the whole to rectified spirit. Distilled with water, they yield a large quantity of essential oil. Decoctions of the leaves, freed from the volatile principle by inspissation to the consistence of an extract, retain a considerable share of their pungency and warmth, together with their bitterness, and have some degree of smell, but not resembling that of the plant itself. On inspissating the spirituous tincture, there remains an extract consisting of two distinct substances, of which one is yellow, unctuous or oily, bitterish, and very pungent, the other black, resinous, less pungent, and sub-astringent.

Savine is a powerful and active medicine, and has been long reputed the most efficacious article in the materia medica for producing a determination to the uterus, and thereby proving emmenagogue. It heats and stimulates the whole system very considerably, and is said to promote the fluid secretions. "The power which this plant possesses," observes Dr. Woodville, "in opening uterine obstructions is considered to be so great, that we are told it has been frequently employed, and with too much success, for purposes the most infamous and unnatural." It seems probable, however, that its effects in this respect have been somewhat overrated, as it is frequently found to fail as an emmenagogue, though this in some measure may be ascribed to the smallness of the dose in which it has usually been prescribed by physicians; for Dr. Cullen remarks that "savine is a very acrid and heating substance, and I have been often, on account of these qualities, prevented from employing it in the quantity necessary to render it emmenagogue. I must own, however, that it shows a more powerful determination to the uterus than any other plant I have employed; but I have been frequently disappointed in this, and its heating qualities always require a great deal of caution." In five cases of amenorrhœa which occurred at the Royal Infirmary in Edinburgh, four were cured by sabina, given in the form of powder, in doses of a scruple to a dram, twice a day.

Dr. Chapman speaks in very high terms of savine in chronic rheumatism, where there exists a coldness of the surface, and especially of the lower extremities, which are dry, or covered with a clammy sweat; and connected with this state there is also a swelling and rigidity of the joints, amounting sometimes even to the loss of motion, accompanied with very acute pains, and aggravated by changes of the weather. He states that the pulse, which, previous to the administration of savine, was "small, weak, and accelerated, becomes full, active, and comparatively slow, upon administering this article;" and that its wide-spreading influence is peculiarly felt throughout the whole animal economy, especially in the organs of secretion. Dr. Eberle's experience with this article likewise concurs with that of the above-named gentleman.

Employment.—Savine is given in substance in the dose of from one to two scruples three times a day. The decoction is prepared by boiling one ounce of the leaves in a pint of water down to half a pint, with the addition of two ounces of sirup: the dose is a wineglassful every two hours.

The following is the method of preparing "savine cerate:" Take of the fresh leaves, bruised, a pound; yellow wax, half a pound; prepared lard, two pounds. Having melted together the wax and lard, boil therein the savine-leaves, and strain through a linen cloth. This article is of comparatively recent introduction, for the purpose of keeping up a discharge from blistered surfaces. It was first described by Mr. Crowther, of England, and has since been received into extensive use, because it does not produce the inconveniences that follow the constant application of the common blistering cerate. A thick white layer forms daily upon the part, which requires to be removed, so that the cerate may be applied immediately to the surface from which the discharge is to be made. In the state of powder or infusion, savine is used in Europe as an application to warts, gangrenous ulcers, &c.

Adulterations.—There is reason to believe that the common red cedar (*Juniperus virginiana*) is sometimes substituted in the shops for the savine, to which it bears a very close resemblance; but the two species differ in taste and smell. In the *J. virginiana*, moreover, the leaves are sometimes ternate.

NO. 340.—RED CEDAR.

J. VIRGINIANA.—Leaves in threes, joined at the base; the younger ones imbricate, older ones spreading.

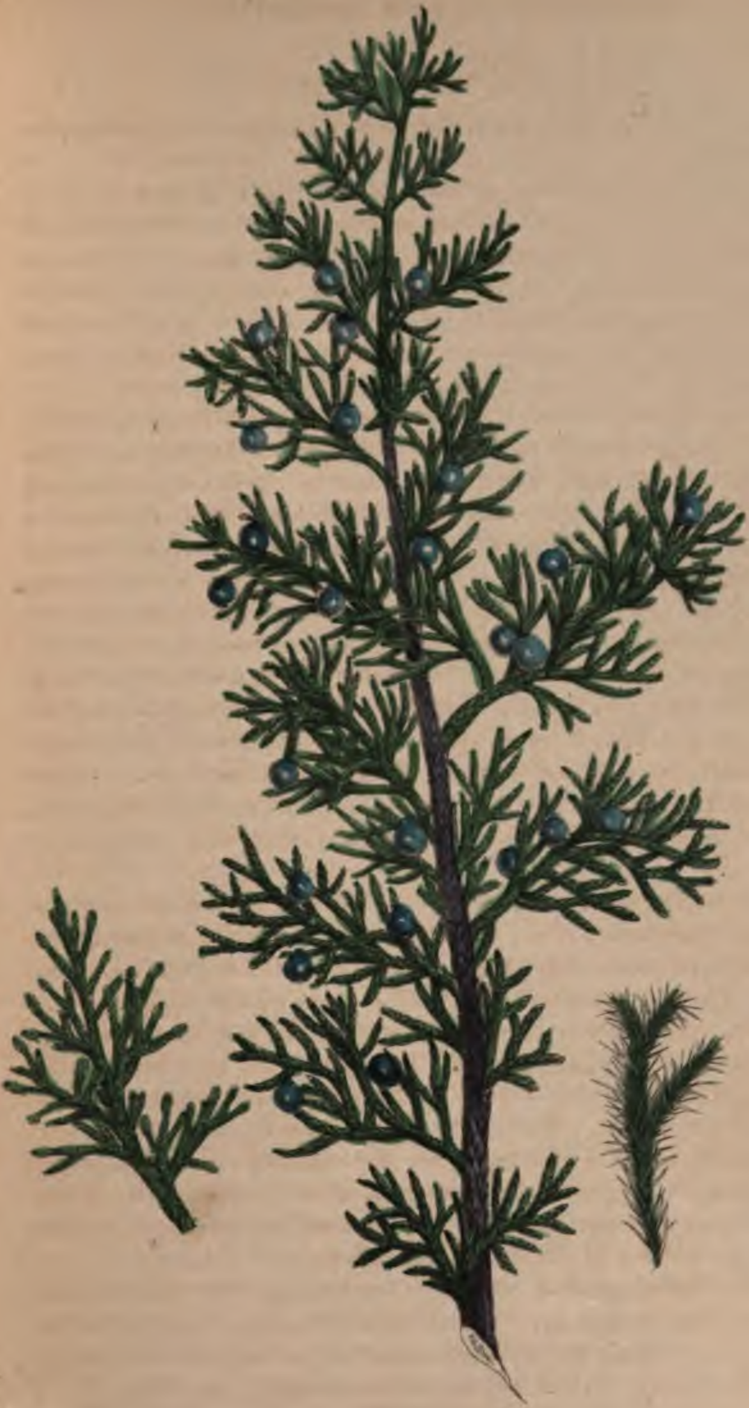
Description.—The red cedar is indigenous to America, growing in all latitudes of the United States from Vermont to the gulf of Mexico, but is most abundant and most vigorous in the southern section. The interior wood is of a reddish color, and highly valuable on account of its great durability. Small excrescences which are sometimes found on the branches of the tree, are popularly used as an anthelmintic under the name of *cedar-apples*, in the dose of from ten to twenty grains three times a day.

This species of juniper is an evergreen tree of slow growth, seldom attaining a very large size, though sometimes rising forty or fifty feet in height, with a trunk twelve or thirteen inches in diameter. It has numerous very close branches, which, in the young tree, spread out horizontally near the ground; but, as the tree advances, the lower branches slowly decay, leaving the trunk irregular with knots and crevices. The leaves are very small, fleshy, ovate, concave, pointed, glandular on their outer surface, either ternate or in pairs, and closely imbricated; those of the young shoots are often much longer, and spreading: the leaves closely invest the extreme twigs, increasing with their growth, till ultimately lost in the encroachments of the bark. The barren flowers are in oblong aments, formed by peltate scales with the anthers concealed within them. The fertile flowers have a proper perianth, which coalesces with the germ, and forms a small, roundish berry, with two or three seeds, covered on its outer surface with a bright-blue powder.

Properties.—The leaves or tops only are officinal. They have a peculiar, not unpleasant odor, and a strong, bitterish, somewhat pungent taste. These properties reside chiefly in an essential oil, and are readily imparted to alcohol. The leaves, according to Jenks, contain volatile oil, gum, tannic acid, albumen, bitter extractive, resin, chlorophylle, fixed oil, lime, and lignin.

Internally, the leaves of the red cedar have been found to produce nearly the same effects as the savine. They are useful in rheumatism, as a general stimulant and diaphoretic. They have likewise been used as an emmenagogue. The oil, which is procured from the cedar by distillation, is very useful in rheumatic complaints, by bathing the affected parts with it. Combined with the oil of spearmint, it is also very beneficial in gravel, diseases of the kidneys, scalding of the urine in gonorrhœa, &c.

An eccentric writer in one of our country newspapers (the "Atalanta Luminary") records some facts relative to this article which are worthy of notice. He says: ". . . . . This is the testimony, not of king *theory*, but of a practical man's *experience*. It may not be uninteresting to the readers of the 'Luminary' to learn the process by which I was led to make these discoveries. I will report it. A year or two since, I saw a notice in the public



Juniperus Virginiana

papers that bedbugs never infested bedsteads made of cedar. I was at that time annoyed by a hardy race of these animals, who resisted the influence of mercury, turpentine, pepper, tobacco, and poisonous gases used in fumigation. I resolved to try the virtues of cedar. The leaves were rubbed on the exposed parts of my body, and some of them placed under my pillow. The rubbing with the cedar-leaves caused a pricking sensation for a short season, but effectually kept aloof my mortal enemy, that was wont to steal upon me and attack me under cover of the night. My success in this experiment led me to make others. I spread a pallet at night on the floor in a room much infested with the bugs, and strewed tobacco all along around it. In the morning I found that the bugs had passed my tobacco-wall. The next night I spread my pallet as before, and surrounded it with twigs of cedar. In the morning the pallet was examined, and not a bug found! The experiment was repeated several times, with the same results.

"I next experimented with seeds. I put up several bags of garden peas, beans, &c.; some with tobacco, some with cedar-leaves, and some with neither. Those packed away with cedar I found well preserved; those with tobacco were partly eaten by the weavil; those put away without either were wholly destroyed. Let your readers dry their seeds well, and pack them away with cedar, and they will save more in the seed line than they expend on your paper."

Employment.—In medicine, the pulverized leaves may be given in doses of from ten to twelve grains, or an infusion of the leaves may be administered. The essential oil is used externally.

Class XXI. Cryptogamia.—Stamens invisible, wanting, or very caducous.

Order 3. Filices.

GENUS ADIANTUM.—Capsules disposed in oblong fruit-dots, arranged along the margin of the frond; involucrum is formed by turning back the margin of the frond over the capsules, and it opens inward. The lines of oblong spots are generally along that margin, which may be considered the end of the leaf, or of the segments of the leaf.

NO. 341.—MAIDENHAIR.

Common Names.—Rock-Fern, &c.

A. PEDATUM.—Frond pedate, with pinnate branches; leaflets halved, upper margin gashed; barren segments toothed, fertile ones entire; stipe capillary, very glabrous.

Description.—This fern has a large brown, fibrous, perennial root, which sends up a compound of tinted leaves and stem about a foot in height. The branches are of a shining chestnut color, forking upward, each branch subdividing into from four to seven smaller ones. The color of the leaves is a pale-green.

Great quantities of this plant are sent to Europe, but much more could be sold were trouble enough taken to gather it. It loves a rich soil and deep woods, but is also found among hills and rocks. It may be collected at any time.

Properties.—The active qualities of this fern reside in its mucilage, united to a small portion of aroma and tannin. The same principles are found in various proportions in all the other medical ferns. It is pectoral and expectorant, mucilaginous, sub-astringent, and sub-tonic. The celebrated *syrop de capillaire* of the French is made with it, which is a pleasant summer drink, and a popular pectoral remedy throughout Europe, although little known in America, except among the French and Germans. It is found useful in all coughs and hoarseness, also in asthma and tickling of the throat, and even in pleurisy and all disorders of the bronchia, larynx, and breast. It is said that the Cherokee Indians use a strong decoction of this plant as an emetic in fever and ague, and with the happiest effects.

Employment.—It may be used in decoction or sirup. The former is prepared by pouring a pint of boiling water on an ounce of maidenhair, straining when cold, and adding sufficient sugar to sweeten.

GENUS ASPIDIUM.—Capsules in scattered, roundish fruit-dots, on various parts of the whole lower surface of the frond; involucrum a kidney-form, or round membrane, fastened to the frond in or near the centre of the fruit-dot, and opening on all sides, or to one side of the fruit-dot, and opening on the other; the involucrum, when a little opened, is often peltate.

NO. 342.—FEMALE FERN.

Common Names.—Rock-Brake, &c.

A. FILIX-FEMINA.—Frond bi-pinnate; leaflets lance-oblong, gash-serrate; serratures 2 or 3 toothed, acutish; fruit-dots oblong, sublunate.

Description.—This species of fern has a root analogous in character to that of the *male fern*, and is supposed to possess similar vermifuge properties, but not in so energetic a manner. It is now very seldom resorted to, at least by physicians, although generally kept in the botanical shops.

NO. 343.—MALE FERN.

Common Names.—Shield-Fern, &c.

A. FILIX-MAS.—Doubly pinnate; sub-divisions oblong, obtuse, serrate at the top; stalk scaly; fructifications reniform.

Description.—The male fern is a perennial indigenous plant, growing in shady pine-forests from New Jersey to Virginia. It is a native also of Europe (being found in great abundance in uncultivated grounds throughout Great Britain), Asia, and the north of Africa. In the American plant the leaflets are said by Pursh to be more obtuse and oftener doubly serrated than in the European.

It has a perennial, horizontal root, from which numerous annual fronds or leaves arise, forming tufts from a foot to four feet in height. The stipe or foot-stalk, and midrib, are thickly beset with brown, tough, transparent scales; the frond itself is oval-lanceolate, acute, pinnate, and of a bright-green color. The pinnæ or leaflets are remote below, approach more nearly as they ascend, and run together at the summit of the leaf; they are deeply divided into lobes, which are of an oval shape, crenate at the edges, and gradually diminish from the base of the pinna to the apex. The fructification is in small dots on the back of each lobe, placed in two rows near the base, and distant from the edges.

The proper period for collecting the root is during the summer, when, according to M. Peschier, of Geneva, it abounds more in the active principle than at any other season. The same author states that it deteriorates rapidly when kept, and in about two years becomes entirely inert. It is brought to us from Europe, but might be advantageously collected in this country.

Properties.—Dried fern-root is externally of a brown color, internally yellowish-white or reddish, with a peculiar but feeble odor, which is most obvious in the powder and decoction, and a sweetish, bitter, astringent, nauseous taste. From the analysis of M. Morin, an apothecary of Rouen, it appears to contain a volatile oil, a fixed oil, gallic and acetic acids, uncrystallizable sugar, tannin, starch, a gelatinous matter insoluble in water and alcohol, lignin, and various earthy and saline substances. M. Peschier found its active principle soluble in ether. According to this chemist, its constituents are adipocire, an aromatic volatile oil, an aromatic and virose fixed oil, a brown resin, a green coloring principle, a reddish-brown coloring principle, extractive, acetic acid, and muriate of potassa. Ether extracts the adipocire along with the active ingredient, but deposites the former on standing. In powdering the root, the internal parenchymatous portion only should be preserved.

Male fern is slightly tonic and astringent, but produces, when taken internally, no very obvious effects upon the system. It was used by the ancients as a vermifuge, and is mentioned in the works of Dioscorides, Theophrastus, Galen, and Pliny. Its anthelmintic powers were also noticed by some of the earlier modern writers, among whom was Hoffmann. But it does not appear to have been generally known to the profession till attention was attracted to it, about the year 1775, by the publication of the mode of treating tænia employed by Madame Nouffer. This lady, who was the widow of a surgeon in Switzerland, had acquired great celebrity in the cure of tape-worm by a secret remedy. Her success was such as to attract the attention of the medical profession at Paris; and some of the most eminent physicians of that city, who were deputed to examine into the subject, having reported favorably of the remedy, the secret was purchased by the king of France (Louis XVI.), and published by his order. The method of treating is the following: After the patient has been prepared by an emollient clyster, and a supper of panada, with butter and salt, he is to take in the morning, while in bed, a dose of two or three drams of the powdered fern-root, which must be washed down with a draught of water; and two hours after, a strong cathartic, composed of jalap and scammony, is to be given, proportioned to the strength of the patient. If this does not operate in due time, it is to be followed by a dose of purging salts; and should the worm not be expelled in a few hours, this process is to be repeated at proper intervals.

A German physician, by the name of Herrenschwand, had used the male fern in a manner somewhat similar before Madame Nouffer's secret was known. The remedy became very popular for a time, and was found successful in numerous instances; but the profession has now generally settled down in the opinion that the good which resulted was owing more to the purgative than to the fern. Instances, however, are recorded in which cures were effected by the root without the use of cathartics. Dr. Peschier asserts that, in the course of nine months, one hundred and fifty tape-worms had been expelled by the ethereal extract of the root. Dr. Ebers found the same preparation completely successful in curing eight cases of tænia. He states that the medicine acts specifically against the worm, which it speedily destroys, and thus favors its expulsion from the body, without producing any severe or unpleasant symptoms. The testimony of Brera is also strongly in favor of the remedy, which he has found effectual even against the armed tænia.

Employment.—The dose of the powdered root is from two to three drams. Two hours after its administration, a purgative must be given, in order to procure the expulsion of the worms.

It enters into several of our worm preparations. Dr. Mayor, of Geneva, gives the oil, in doses of from thirty to fifty drops—one half to be taken at night, and the other half in the morning; to be followed in about an hour by one and a half ounces of castor-oil.

Adulterations.—The roots of other species of fern are frequently substituted for the officinal, and in the dried state it is difficult to distinguish them.

GENUS ASPLENIUM.—Capsules in lines parallel to each other, situated exactly upon the secondary vein of the frond; involucres opening inward. (By the secondary veins is meant those of the middle part of the disk, not the larger ones at the margin or midrib. The parallel lines of capsules may stand obliquely with respect to the midrib, but their direction must be parallel to each other.)

NO. 344.—SPLEENWORT.

Common Names.—Ebony Spleenwort, &c.

A. EBENEUM.—Frond pinnate: leaflets sessile, lanceolate, serrulate, cordate at the base, auricled above.

Synonym.—*Asplenium trichomanoides*, Michaux.

Description.—This plant grows on the rocks of Europe and America. It is a small plant, six or eight inches high; the leaves are upright, numerous, and pinnate, similar to those of brake; the ribs are blackish, leaflets in pairs, gradually diminishing toward the top. It grows in bunches in low woods, near moist meadows.

Properties and Uses.—The leaves of spleenwort are pectoral, aperient, and diuretic, and are used in consumption, coughs, &c. They open obstructions of the viscera, promote expectoration, assist the urinary organs by cleansing the kidneys, and allay pains in the urinary passages, frequently carrying off sand and gravel. It is said that this herb has cured the venereal disease.

GENUS BOTRYCHIUM.—Capsules coriaceous, globose, 1-celled, smooth, adnate to each rachis of a compound raceme (panicle), separate; valves 2, connected behind, opening transversely.

NO. 345.—CONSUMPTION-BRAKE.

Common Names.—Grape-Fern, Moonwort, &c.

B. FUMARIOIDES.—Scape naked; frond glabrous, radical, 3-parted, 2-pinnate; leaflets lunate, crenate; spikes pinnate.

Synonym.—*Botrypus lunarioides*, Michaux.

Properties and Uses.—This fern is possessed of excellent stimulant and tonic properties, and is found in botanical shops only. It is purely a domestic remedy in consumption, and for diarrhœa and cholera-infantum.

GENUS OSMUNDA.—Capsules globose, pedicelled, radiate-striate or wrinkled, having a hinge at the joining of the two valves, which resembles part of the jointed ring of annulated ferns; the capsules either occupy the whole frond, to a limited extent, or a panicled raceme. The parts of the frond occupied by the fruit are always more contracted than the barren parts.

NO. 346.—BUCKHORN-BRAKE.

O. REGALIS.—Frond bi-pinnate, terminating in several racemes, very branching, without hairs.

Synonym.—*Osmunda spectabilis*, Willdenow.

Description.—The buckhorn-brake is found in meadows, and low, moist grounds. The main root, which is the only medicinal part of the plant, is about two inches long, and somewhat in the shape of a horn. It consists of a number of longitudinal scales, which have silky, transparent borders; the other portion of the root is composed of small, brownish fibres, which are very numerous, and firmly matted together. The stems are smooth, slender, branched, and about three feet high. The flowers appear in June, arranged in a cluster at the top of the stem, and are succeeded by numerous seed-vessels, which are at first green, and subsequently of a brownish color.

The roots should be collected in August, or about the first of April, and they are generally found in the greatest perfection at the latter period. They should be dried with care, as there is danger of their becoming mouldy.

The flowering-fern (*Osmunda cinnamomea*) is sometimes used as a substitute for the buckhorn-brake, but it is not so good. It grows in damp woods and meadows, forming elevated tufts by the matting together of the roots. When the stems first appear in the spring, they are hairy, and of a whitish color, surmounted by the young leaves, curiously rolled up in the form of a scroll, and covered with a downy or wool-like substance. The full-grown stems are sometimes four or five feet high, and are furnished with two rows of long, tapering leaves, which are divided into numerous lobes. The flowers are at the top of a separate foot-stalk, and are disposed in a cluster similar to those of the buckhorn-brake. They appear in June, and are followed by minute, brownish seed-vessels. The root is similar in shape to that of the brake, but considerably larger.

Properties and Uses.—The roots of these plants are mucilaginous, particularly that of the buckhorn-brake. The mucilage is obtained by steeping the roots in hot water, and this, with the addition of loaf-sugar, ginger, brandy, and some other ingredients, constitutes an excellent jelly, which is useful in coughs, diarrhœa, dysentery, and soreness of the stomach and bowels. It is also beneficial in recovery from sickness. Half a wineglassful is the ordinary dose, and it may be frequently repeated.

The mucilage, mixed with fourth-proof brandy, is used in the country as an external application for sprains and weakness of the back. A single root of the buckhorn-brake, infused for half an hour in a pint of hot water, is generally sufficient to convert the whole into a thick jelly.

GENUS POLYPODIUM.—Capsules disposed in round, scattered fruit-dots (or clusters of capsules), on various parts of the lower surface of the frond; involucre none.

NO. 347.—POLYPODY.

Common Names.—Polypod, &c.

P. VULGARE.—Frond deeply pinnatifid; divisions lance-linear, obtuse, crenulate, approximate, upper ones gradually smaller; fruit-dots solitary; root chaffy. Var. *virginianum* has a naked root.

Description.—This is a well-known fern, growing in large beds on the sides of rocks and shady hills. The root is creeping, rough, and irregular, and about the size of a goosequill. The fronds or leaves are six or eight inches in length, supported on slender foot-stalks, cut almost to the midrib by sinuses, and furnished on the back with double rows of large, round, yellow dots.

Properties.—The taste of the polypod is bitterish and somewhat pungent. It is a valuable medicine. It appears to exercise a curative influence in diseases of the liver, both acute and chronic; incipient consumption, with many of its concomitant symptoms, such as difficulty of breathing, tightness of the chest, and cough, either dry or loose; palpitation of the heart; dyspepsia, with loss of appetite, and other dyspeptic symptoms; diseases of the skin, such as salt-rheum, erysipelas, and eruptions of a red color, together with all impurities of the blood. Eruptions that have been repelled are determined to the surface by this agent. It often allays a severe cough in a short time, facilitating expectoration, and relieving the oppression of the chest. It sometimes happens that, until the expectoration is established, the patient experiences slight nausea, as an effect of the medicine, but this disappears as soon as the expectoration commences. In the advanced stages of consumption, in which extensive softening of the lungs is going on, the remedy does not appear to exercise a salutary influence.

There are but few cases of diminished appetite which this medicine does not relieve in a short period of time. In some instances, after it has been used a few days, a reddish-colored eruption makes its appearance about the chest and other parts of the body, but it disappears in a very short time, without any inconvenience to the patient. The polypod has been used with success in asthma and chronic catarrh of the lungs.

Employment.—An infusion may be prepared by adding a heaped teaspoonful of the powdered root or leaves to a pint of boiling water, which may be sweetened with loaf-sugar, and taken in the course of twenty-four hours.

GENUS PTERIS.—Capsules arranged in a continued line along the very margin of the frond; involucres opening inward, being formed of the inflexed margins of the fronds. (When the leaves are extremely small, the rows of capsules on opposite sides meet and cover the lower surface.)

NO. 348.—ROCK-BRAKE.

P. ATROPURPUREA.—Frond pinnate; lower leaflets lanceolate, obtuse, ternate or pinnate; at the base obtusely truncate, or sub-cordate; stipe dark purple.

Properties and Uses.—The general properties of this fern are almost identical with those of the preceding species. Although both are kept in the shops, I think the former preferable as a medicine.

Order IV. Algæ-Fucoideæ.

GENUS FUCUS.—Receptacles tubercled; tubercles perforated, nourishing aggregated capsules within, intermixed with articulated fibres.

NO. 349.—SEA-WEED.

Common Names.—Bladder-Wrack, &c.

F. VESICULOSUS.—Frond coriaceous, flat, linear, dichotomous, entire, with a central rib; vesicles innate in pairs, receptacles distinct, terminal, turgid, mostly elliptical.

Description.—This is a perennial plant, growing everywhere on our seashore, on rocks and stones, or cast up on the beach, bearing its fructification in the spring. The root is an expanded, black, woody, callous disk. The frond is smooth and glossy, flat, winged, from one to four feet long, and from half an inch to one and a half inches wide, linear, forked near the root, and afterward repeatedly dichotomous, of a dark olive-green color, becoming paler near the apices, and when dry black and dull. All the branches are nearly of equal height, with the apices rounded, and not unfrequently notched; the margins entire. The substance of the frond is coriaceous, flexible, and tough, but brittle after it is dried; and through its whole length furnished with a midrib of a blackish color, and as thick as a goosequill, but gradually growing pale and thin. In the membranous part of the frond throughout its whole length are found immersed spherical vesicles, varying in size from a pea to a hazel-nut, externally smooth, and containing in their cavity a quantity of air.

The economical uses of sea-weeds are numerous and important. To the agriculturist they furnish a valuable manure. To the glass-maker and soap-boiler they yield the fixed alkali, and the manufacture of kelp for this purpose became a valuable source of revenue to the proprietors of the rocky shores of Europe, particularly of Britain, and more especially of those of the northern and western islands of Scotland, during the wars of Napoleon. From the ashes of the *Fuci* the chemist has derived the very curious elementary substance named Iodine. Several of them are so rich in saccharine matter and vegetable mucilage, that on the shores of the northern countries of Europe, and the Scottish islands, much of the winter provender of cattle is derived from them. A few of them also afford food to man; some of the smaller sorts are used as condiments; while others are employed as medicines.

In Scotland, this species of sea-weed is sometimes called *black tang*—sometimes *kelp-ware*—and, when the receptacles are large and swollen, *strawberry-ware*. The Norwegians call it *kue-tang*. It is the *sea-oak (Quercus marina)* of the older writers.

This sea-weed is well known as an excellent manure for land, to which purpose it is often applied in the maritime parts of Scotland and other countries. In the islands of Jura and Skye it serves as a winter food for cattle, which regularly come down to the shores at the recess of the tides to seek for it. Linnæus informs us that the inhabitants of Gothland boil it in water, and, mixing a little coarse meal or flour, feed their hogs with it, for which reason they call the plant *swine-tang;* and in Scania, he says that the poor people cover their cottages with it, and sometimes use it for fuel.

Properties.—The most important uses to which *Fucus vesiculosus* is applied is in the manufacture of Kelp, which is a very impure carbonate of soda, containing sulphate and chloride of sodium, with a portion of charcoal. Iodine is also yielded by kelp; its name being derived from ιωδης *(violaceus)*, in allusion to the very striking circumstance of its yielding a violet-colored gas on being exposed to an increase of temperature. It was first discovered accidentally by M. Courtois, of Paris, and its properties have been since accurately examined by Clement and Desormes, Gay-Lussac, Sir H. Davy, Vauquelin, and Wollaston.

The medical virtues of bladder-wrack have been much celebrated by Dr. Russell, of England, in his "Dissertation concerning the Uses of Sea-water in the Diseases of the Glands." He found the saponaceous liquor or mucus in the vesicles of the plant to be an excellent resolvent, and useful in dispersing scrofulous swellings.

Employment.—In affections of scrofula, Dr. Russell recommends the patient to rub the tumor with the vesicles of this plant, and afterward to wash the part with sea-water. But the most beneficial use to which the *Fucus vesiculosus* is applied is in making kelp, already mentioned, a work much practised in the Western islands of Scotland.

Order V. Lichens.

GENUS CETRARIA.—Frond cartilaginous or membranaceous, ascending or expanded; lobe laciniate, smooth and naked on both sides; apothecia shield-like, obliquely attached to the margin of the frond, the lower free, being separated from it, the upper one sessile; seed-bearing lamina forming the disk, colored, plano-concave, surrounded with a frond-like inflexed margin.

NO. 350.—ICELAND MOSS.

Common Names.—Iceland Lichen, Eryngo-leaved Liverwort, &c.

C. ISLANDICA.—Frond cartilaginous, olive-brown, bright-reddish, or pale, at the base; lobes sub-erect, irregularly linear, multifid, channelled, fringed or toothed, the fertile ones dilated; apothecia obliquely scutellate, of the same color as the frond, with a raised, entire border, and dark-brown disk.

Description.—This species of lichen is a native of the mountainous heaths and woods in the alpine parts of Great Britain, more particularly of Scotland. It occurs on all the heaths and mountains of the north of Europe, and Dr. Holland informs us that it grows abundantly on the lava on the western coast of Iceland, where the whole plant is more luxuriant than in any other locality. Although this lichen is more or less common in all arctic countries, no mention is made of it by Wahlenberg, in his interesting account of the physical distribution of vegetables in Iceland.

The Iceland moss seldom exceeds three inches in height, and is erect and bushy. The fronds form loose, elegant tufts; they are membranous, somewhat cartilaginous, channelled below, variously sinuated, and lobed; the lobes being irregularly divided, notched, and fringed at the margin with hairs. The surface of the whole vegetable is smooth, shining, of a rich chestnut-brown color, with a green tinge when wet, paler underneath. In such plants as grow in the shade, the color is a pale brownish-green. The fructification, or shields, are dark-chestnut, large, polished, flat, and growing close to the upper surface of the frond.

Properties and Uses.—Iceland moss was first recommended by Linnæus as a popular remedy in Sweden, for coughs. Scopoli afterward published his observations on it, but it excited little attention in England till Dr. Regnault's treatise on consumption appeared, in which its virtues were highly extolled. According to Bergius, the lichen in its recent state is "eccoprotica," and when dried, "nutriens, pectoralis." In the "Dispensatorium Fuldense," it is said to be "astringens, roborans, humectans, inviscans, nutriens, antiseptica." It is not, however, used in continental Europe, indiscriminately, in every species of phthisis, nor in every stage of that disorder. It is chiefly recommended in those instances where the cough is attended with purulent expectoration; in cases preceded or accompanied by hemoptysis; in incipient phthisis, when from relaxation there is an increased discharge of mucus from the bronchiæ; in the sequelæ of measles, attended by a quick, small pulse, pain of the breast, emaciation, violent cough, and purulent expectoration. The use of it is forbidden when vomicæ are already formed, and proceeding toward ulceration; in dyspnœa, and when there is an increased action of the vessels, with diminished expectoration. Neither has the use of *Cetraria islandica* been confined to phthisical cases: it has been recommended in malignant fevers, dysentery, and hematemesis; as an enema in hemorrhoids; and as an injection in gonorrhœa. In the recent state, it is boiled in milk, and frequently used by the peasants as a cathartic, and to expel worms.

We have found the Iceland moss, on account of its bitterness, to act as a tonic. The great quantity of fecula which it contains renders it likewise very nourishing. Deprived of its bitter principle by repeated washings, or rather by macerating it in a weak alkaline ley, as Berzelius recommends, it is used as an aliment by the inhabitants of Iceland and of some parts of northern continental Europe. It then operates like gum-arabic and other mucilaginous substances, and is very frequently administered in pulmonary catarrhs, diarrhœa, and other affections requiring the exhibition of remedies of this kind. When the bitter principle is not extracted, it is beneficial in chronic diseases of the lungs, in obstinate and inflammatory diarrhœa, dyspepsia, and generally in all cases where it is necessary to stimulate in a slight degree the digestive organs, and at the same time to promote the strength of the patient by tolerably abundant alimentation, without fatiguing the stomach.

Dr. Ebeling, in his thesis, recommends it first to be infused in boiling water, with a view to its being thoroughly cleansed, while by the same means it will be deprived of a considerable part of its original bitterness. The lichen, thus prepared, is to be boiled, and the mucilage so obtained from it to be used either as an article of diet or of medicine; and we have it in our power to render it exceedingly palatable by the addition of a little white wine, when that can be given with propriety; or, when wine is not admissible, by the addition of either milk, honey, or the sirup of lemons.

ADDENDA.

In the preparation of the preceding matter, a few plants were omitted in their proper connexion, which we here subjoin, with the suitable references.

GENUS COPAIFERA—(Should be on page 150).—Calyx none; corol 4-petalled; legume ovate; seed 1, involved in a pulpy coat.

NO. 351.—COPAIBA.

C. OFFICINALIS.—A tree with primate leaves; raceme compound, terminal. (South American balsam of copaiba is the resinous juice.)

Description.—The first notice to be found of the copaiba-plant is that by Marcgrav and Piso in the year 1648. Jacquin in 1763 described a species of *Copaifera*, which grew in the island of Martinique, and which he named *C. officinalis*, from the fact that it afforded this resinous juice. As this was believed to be the same plant with that observed by Marcgrav in Brazil, it was adopted without hesitation by the pharmacopœias; but their identity is now denied: and Desfontaines has proposed for the officinal species the title of *C. Jacquini*, in honor of the botanist who originally described it. From recent observation and discoveries it appears that numerous species of *Copaifera* exist in Brazil and other parts of South America, all of which, according to Martius, yield copaiba. Hayne describes thirteen different species besides the one of which we are now treating.

The *Copaifera officinalis* is an elegant tree, with a lofty stem, much branched at the top, and crowned by a thick canopy of foliage. The leaves are alternate, large, and pinnate, composed of from two to five pairs of ovate, entire, obtusely acuminate leaflets, two or three inches in length, rather narrower on one side than the other, smooth, pellucidly punctate, somewhat shining, and supported on short foot-stalks. The flowers are whitish, and disposed in terminal branched spikes. The fruit is an oval, two-valved pod, containing a single seed.

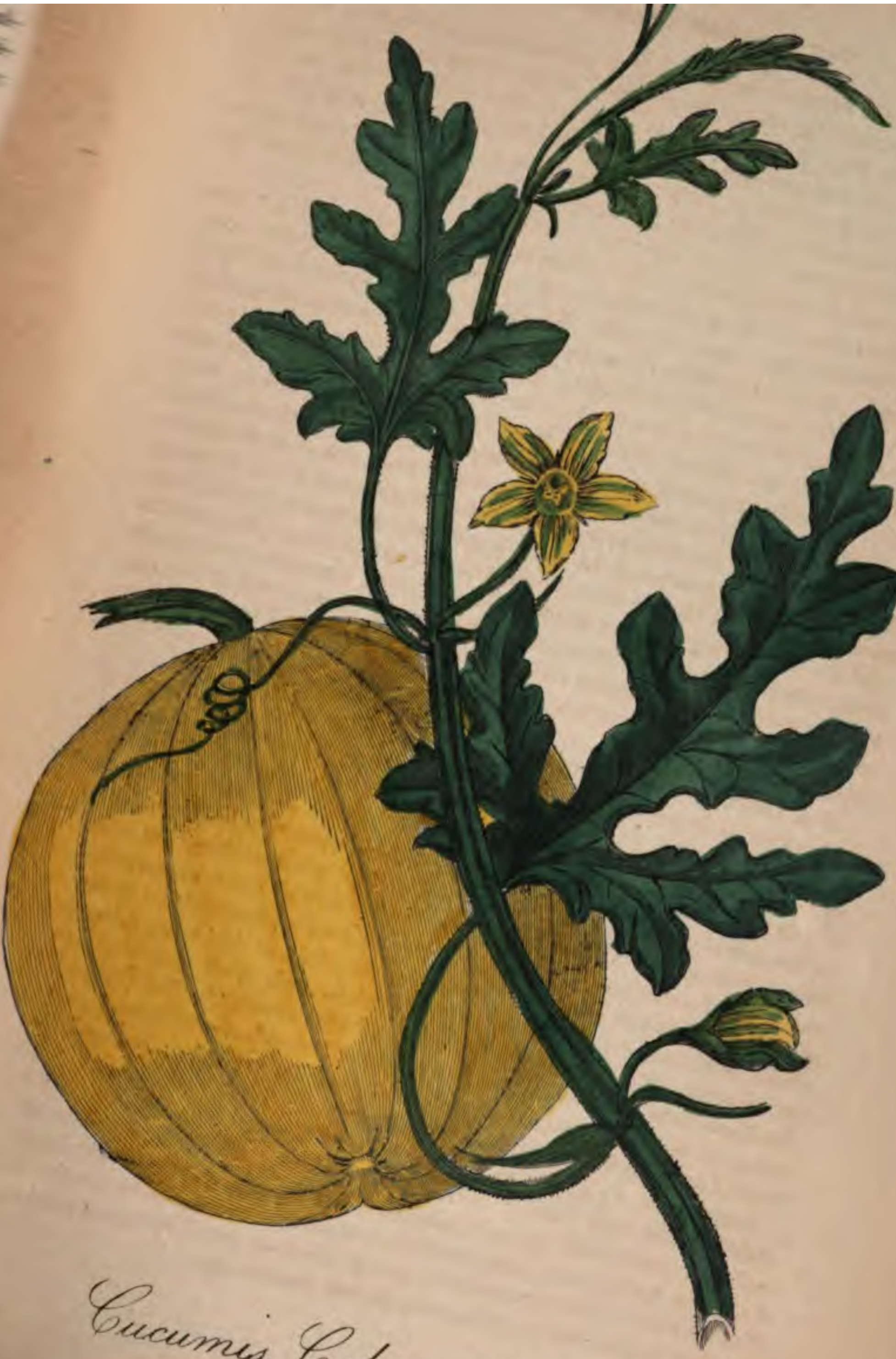
This species of *Copaifera* is a native of Venezuela, and grows in the province of Carthagena, mingled with the trees which afford the balsam of Tolu. It grows also in some of the West India islands, particularly Trinidad and Martinique, where it is said to be naturalized. Though recognised by the United States pharmacopœia as one of the sources of the officinal copaiba, it probably yields little of that now in use. According to Hayne, the species from which most of the copaiba of commerce is derived is the *C. multijuga*, growing in the province of Para, Brazil.

The juice is obtained by making deep incisions into the stems of the trees, and the operation is said to be repeated several times in the same season. As it flows from the wound, it is clear, colorless, and very thin, but soon acquires a thicker consistence, and a yellowish tinge. It is most largely collected in the provinces of Para and Maranham, in Brazil; but great quantities of it are now brought from Maracaibo, in Venezuela, and other ports on the Caribbean sea.

Properties.—Copaiba is a clear, transparent liquid, usually of the consistence of olive-oil, of a pale-yellow color, a peculiar not unpleasant odor, and a bitterish, hot, nauseous taste. Its specific gravity varies from 0·950 to 1·000. It is insoluble in water, but entirely soluble in absolute alcohol, ether, and the fixed and volatile oils. Strong alkaline solutions dissolve it perfectly, but the resulting solution becomes turbid when largely diluted with water. With the alkalies and alkaline earths, it forms saponaceous compounds, in which the resin of the copaiba appears to act the part of an acid. It dissolves magnesia, especially with the aid of heat, and even disengages carbonic acid from the carbonate of that earth. If triturated with a sixteenth of its weight of magnesia and set aside, it gradually assumes a solid consistence, and a similar change is produced with hydrate of lime. Its essential constituents are volatile oil and resin, with a minute proportion of an acid which appears to be the acetic. As it contains no benzoic acid, it can not with propriety retain its former title of *balsam of copaiva.* The substances which it most closely resembles, both in composition and properties, are the turpentines.

This balsam has been much used as a cooling diuretic and astringent, but the manner in which it has been employed renders it less efficient than it might be. It enters into one of our preparations, the *Diuretic Drops,* and we have used it in this manner with particular benefit. When absorbed, it is principally on the mucous membrane that it seems to act, and especially on the genito-urinary organs, in the same manner as turpentines. It is employed with success in chronic catarrhs, in coughs with great expectoration, and in certain affections of the lungs unattended with inflammation. It also proves successful in obstinate leucorrhœa, &c., and in this complaint it is chiefly used to reduce the discharges. It was formerly most usually administered when the inflammatory symptoms had been abated, but Drs. Delpech and Ribes have more recently exhibited it at the outset of the disease, however great the inflammation might be, and they affirm having obtained the greatest advantages from its early employment.

Employment.—Merely as a stimulant, the dose is from ten to twelve drops, two or three times a day, on sugar or in tea. Pills of solidified copaiba are made in the following manner: copaiba, one ounce; pure calcined magnesia, half a dram; mix carefully, and permit the mass to become solid. For four-grain pills, two of which contain fifteen drops of the liquid balsam, the dose is from one to three, three or four times a day.



Cucumis Colocynthis

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GENUS MELIA—(Should have been on page 153).—Calyx 5-toothed; petals 5; nectary cylindrical, toothed, bearing the anthers in the throat; drupe with a 5-celled nut.

NO. 352.—PRIDE OF CHINA.

Common Names.—Pride of India, Bead-Tree, &c.

M. AZEDERACH.—Leaves large, doubly pinnate, smooth, acuminate, denticulate; flowers in axillary clusters near the tops of the branches; fruit a round yellowish drupe, of the size of a cherry.

Description.—This tree is a native of India, Assyria, and Persia, rising from thirty to forty feet in height, and having a trunk nearly a foot in diameter. The leaves are of a dark-green and the flowers of a lilac color. It is a beautiful tree, and is cultivated in our southern states as an ornamental one. The berries are poisonous.

Properties.—The bark of the root is anthelmintic, emetic, cathartic, and in large doses is said to be narcotic. Barton esteems it as one of our most active vermifuges. It is used in infantile remittent fevers when the patient is troubled with worms, and in verminous fevers where no worms are voided. The bark should be gathered when the sap is not rising.

Employment.—Add four ounces of the bark to one quart of water, and boil down to a pint. The dose is half an ounce every two hours until it purges. The pulp of the berry is employed as an ointment in tinea capitis.

GENUS CUCUMIS—(Should have been on page 293).—Calyx 5-toothed; corol 5-parted. Male filaments 3; anthers cohering. Female style 3-cleft; prome succulent; seeds ovate, acute, compressed.

NO. 353.—COLOCYNTH.

Common Names.—Bitter Cucumber, &c.

C. COLOCYNTHIS.—Leaves in many divisions; fruit globular, smooth; stems rough.

Description.—The colocynth is an annual plant, a native of the Levant, and is cultivated in gardens. The stem is fleshy, covered with rough hair, scandent and cirrhose; the leaves are reniform, five-lobed, the nerves covered with stiff hair. The flowers are monœcious, solitary, and of an orange-yellow color; the fruit is globular, yellow, of the size of an orange, furnished with a thin and rough peel, containing a white pulp; the seeds are oval, flattened, white, and very numerous.

Properties.—As kept in the shops, colocynth is in the shape of whitish balls about the size of a small orange, very light and spongy, and abounding in seeds which constitute three fourths of their weight. The seeds are somewhat bitter, but possess little activity, and, according to Captain Lyon, are even used as food in northern Africa. When the medicine is prepared for use, they are separated and rejected, the pulpy or medullary matter only being employed. This has a very feeble odor, but a nauseous and intensely bitter taste. Water and alcohol extract its virtues. Vauquelin obtained the bitter principle in a separate state, and called it COLOCYNTHIN.

Colocynth is one of the most powerful and violent cathartics employed in medicine. When administered alone, it is apt to occasion severe griping; and if it be given in large doses, it causes vomiting, tenesmus, and other marks of great intestinal irritation. It appears to act with most energy upon the mucous coat of the lower intestines. Orfila states that in the animals which he destroyed with this article, he uniformly found the rectum in a state of high inflammation and gangrene. It is occasionally given as a hydragogue by some practitioners, and has likewise been used in coma and apoplexy. In these cases its success depends upon the revulsion which it occasions from the head to the intestinal canal. We make no use of this plant, except as an article that enters into the *Dyspeptic Pills.*

Colocynth was frequently employed by the ancient Greeks and the Arabians, though its drastic nature was not unknown to them. Thunberg states that the fruit of this plant, at the cape of Good Hope, is rendered so mild by being properly pickled, that it is eaten by both the natives and colonists; but, as it is thus employed before attaining perfect maturity, it is possible that the drastic principle may not have been fully developed.

Employment.—Colocynth, in substance, is given in doses of from five to ten grains. The compound extract of colocynth is composed of colocynth, six drams; socotorine aloes, one ounce and a half; scammony, half an ounce; cardamom, one dram; diluted alcohol, one pint. The dose of this is from ten to fifteen grains.

GENUS PINUS—(Should have been on page 294).—Staminate flowers—corol none; calyx a peltate scale of the ament; anthers sessile, growing to the scales. Pistillate flowers—calyx a 2-leaved scale of the cone; corol none; pistil 1, 2-winged; nuts under each scale.

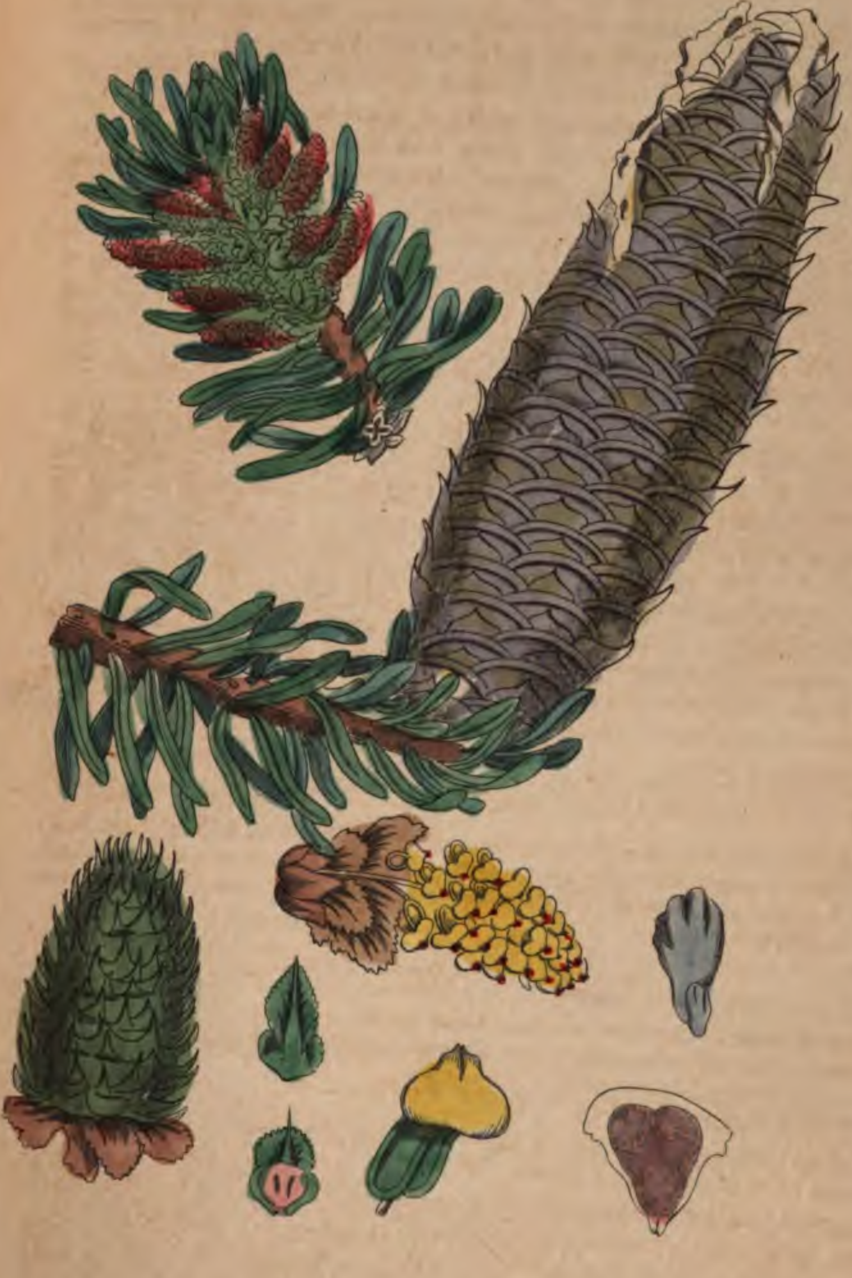
NO. 354.—BALSAM-TREE.

Common Names.—Fir-Tree, American Silver Fir, &c.

P. BALSAMEA.—Leaves solitary, flat, glaucous beneath; cones cylindrical, erect, with short bracts; bracts mucronate, sub-serrulate.

Synonym.—*Abies balsamifera*, Michaux.

Description.—This tree is found growing plentifully in Canada and in some parts of the United States. The trunk is elevated, ramose at the top, covered with a smooth (and in some species with a rough) bark. The leaves are linear, more or less elongate, pointed, persistent, of a more or less deep-green color. The flowers are monœcious, male flowers in scaly aments; two anthers fixed to the scales: female flowers amentaceous as well as the male, two on each scale. The fruit is a pyramidal cone, of variable size, composed of imbricated and thick scales, containing almonds of a turpentine taste. It abounds with a balsam, well known as *balsam fir*, *Canada balsam*, &c.



Pinus Balsamea.

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Properties and Uses.—This balsam is composed of resin and essential oil. It is entirely soluble in alcohol, and partially in water. When given internally, it is emollient and cooling. It is efficacious when applied to sore nipples, and is esteemed very much by some practitioners in cuts, wounds, &c. Its action on the urinary organs is similar to that of the other turpentines: it is more generally preferred for the treatment of the advanced stages of gonorrhœa, of gleet, of leucorrhœa, and of cystirrhœa, in which diseases it proves highly beneficial.

A decoction of the bark is an excellent remedy in diarrhœa, dysentery, and bowel-complaints generally.

NO. 355.—HEMLOCK-TREE.

Common Names.—Hemlock Spruce, &c.

P. CANADENSIS.—Leaves flat, denticulate, leaning two ways; strobiles ovate, terminal, acute, scarcely longer than the leaves; scales round.

Description.—This is the *hemlock spruce* of the United States and Canada. When of full growth it is often seventy or eighty feet high, with a trunk two or three feet in diameter, and of nearly uniform dimensions for two thirds of its length. The branches are slender, and dependent at their extremities. The leaves are very numerous, six or eight lines long, flat, denticulate, and irregularly arranged in two rows. The strobiles are ovate, little longer than the leaves, pendulous, and situated at the ends of the branches.

The tree is abundant in Canada, Nova Scotia, and the more northern parts of New England, and is found in the elevated and mountainous regions of the middle states. Its bark abounds in the astringent principle, and is much used for tanning in the northern parts of the United States. It contains much less juice than some other of the *Pinaceæ*, and very little flows from incisions made into its trunk. But in the trees which have attained their full growth, and are about or have begun to decay, the juice exudes spontaneously, and hardens upon the bark in consequence of the partial evaporation or oxydation of its essential oil. The bark thus encrusted is stripped from the tree, broken into pieces of convenient size, and boiled in water. The pitch melts, rises to the surface, is skimmed off, and is still further purified by a second boiling in water. It is brought to Philadelphia and New York from the north of Pennsylvania and New York state, in dark-colored brittle masses, which, on being broken, exhibit numerous minute fragments of bark, interspered through their substance. From these it is purified in the shops by melting and straining through linen or canvass.

Properties.—Thus prepared, the pitch is hard, brittle, quite opaque, of a dark yellowish-brown color, which becomes still darker by exposure to the air, of a weak peculiar odor, and scarcely any taste. It softens and becomes adhesive with a moderate heat, and melts at 198° Fahr. Its constituents are resin and a minute proportion of essential oil. It is most generally known by the incorrect name of *hemlock gum*, and sometimes *hemlock pitch*. It is a gentle rubefacient, closely analogous to Burgundy pitch, and employed for precisely the same purposes.

The bark contains tannin, gallic acid, and other constituents, and is very astringent. In decoction, it makes an excellent wash for falling of the bowels and womb. An Indian doctor informs me that an infusion made of the leaves is very useful in producing perspiration in incipient rheumatism. The oil, applied externally, is also valuable in rheumatic affections; and, given internally, is very good in pain of the breast; likewise for quinsy, bathed on the throat. The pitch makes an excellent plaster for lumbago, sciatica, and rheumatism.

The Thomsonians make great use of the bark in their compounds, and with good effect, except in cases where astringents are objectionable. A fomentation of the boughs, twigs, or leaves, is very useful when applied to swelled testicles, arising from the mumps, and translated to these parts; and also in most fomentations to allay swellings they are beneficial.

Employment.—Indicated above. The bark is never given alone, being too astringent. The dose of the oil is from twenty to thirty drops.

NO. 356.—YELLOW PINE.

Common Names.—Pitch-Pine, Southern Pine, &c.

P. PALUSTRIS.—Leaves in threes, very long; stipules pinnatifid, ramentaceous, persistent; strobiles sub-cylindrical, armed with sharp prickles.

Description.—This species of pine is a very large indigenous tree, growing in dry sandy soils, from the southern part of Virginia to the gulf of Mexico. Its mean elevation is sixty or seventy feet, and the diameter of its trunk about fifteen or eighteen inches for two thirds of this height. The leaves are about a foot in length, of a brilliant green color, and united in bunches at the ends of the branches. The names by which the tree is known in the southern states are, *long-leaved pine*, *yellow pine*, and *pitch-pine;* but the first is most appropriate, as the last two are applied also to other species. This tree furnishes by far the greater proportion of turpentine, tar, &c., consumed in the United States, or sent from this to other countries.

The *Pinus tæda* is the *loblolly*, or *old field pine* of the southern states. It is abundant in Virginia, where it occupies the lands which have been exhausted by cultivation. It exceeds eighty feet in height, has a trunk two or three feet in diameter, and expands into a wide-spreading top. The leaves are about six inches long, and of a light-green color. It yields turpentine in abundance, but less fluid than that which flows from the preceding species of pine.

The *Pinus sylvestris*, when of full size, is eighty feet high, with a trunk four or five feet in diameter. It inhabits the northern and mountainous parts of Europe. In Great Britain it is called the *wild pine* or *Scotch fir*, the latter name having been applied to it from its abundance in the mountains of

Scotland. It yields a considerable proportion of the common European turpentine.

Properties.—The properties of the yellow, pitch, or southern pine, are stimulant, laxative, diuretic, pectoral, vermifuge, discutient, anti-herpetic, detergent, balsamic, vulnerary, &c. This, together with the white pine, is one of the most valuable productions to be found. The bark and gum are very useful in rheumatism and consumption. It likewise acts as an emmenagogue, increasing the flow of the menses, and is beneficial in diseases of the kidneys. Externally, it is much employed in the form of plasters, applied to ulcers, &c. In short, it appears to act upon all the secretions and excretions of the body.

Besides the pines above described, various others yield medicinal products. The *Pinus maritima (Pinus pinaster* of Aiton and Lambert), growing in the southern and maritime parts of Europe, yields much of the turpentine, pitch, and tar, consumed in France, and is admitted among the officinal plants in the French Codex. From the branches of the *Pinus pumilio*, which inhabits the mountains of eastern and southeastern Europe, a terebinthinate juice exudes spontaneously, called *Hungarian balsam.* The *Pinus cembra*, or *Siberian stone-pine* of the Alps and Carpathian mountains, is said to afford the product called *Carpathian balsam;* and the seeds of both that species and the *Pinus pinea* or *stone-pine* of the south of Europe and north of Africa are used in Europe in desserts, under the name of *pine-nuts.* The *Pinus rigida* or *pitch-pine* of this country, and probably others besides those mentioned, are sometimes employed in the preparation of tar.

TAR-WATER was once a celebrated remedy, made by infusing tar in cold water, stirring it from time to time, and lastly pouring off the clear liquor for use. This remedy was introduced to notice over one hundred years ago, by the bishop of Cloyne, in Ireland, who, in his intercourse with his flock, benevolently endeavored to alleviate as well the ills of their bodies as to minister to the good of their souls; and in this he succeeded in so remarkable a degree as to excite the attention of the public, to bring the article into use, and of course to call down upon his own devoted head the anathemas of all the physicians of the day. They pronounced this simple medicine, in their usual dogmatical manner, to be one of the most dangerous conceivable; and overwhelmed the poor, amazed prelate (whose only motive was to alleviate suffering humanity) with pamphlets, epigrams, sneers, and lampoons:—

> "Full many a wight, with face of funeral,
> From mortar, still, and urinal,
> Hastes to throw in his scurvy mite
> Of spleen, of dullness, and of spite"—

until at last, goaded entirely out of patience, he was compelled to take up the cudgels in his own defence. He "came out" in the public papers, and so belabored the thick skulls of the *learned* blockheads who had ridiculed him, and so clearly proved their malice, insufferable self-sufficiency, and culpable ignorance, that he completely awakened the attention of the public to his remedy, and nearly ruined their profession!

Shortly afterward, Thomas Prior, Esq., of Dublin, a gentleman of erudition, in a treatise on this subject, dedicated to the earl of Chesterfield, and published in 1744, detailed over a thousand cases of disease, principally of the sanguine, pulmonic, and dropsical character, which were successfully treated with this simple agent—many of them desperate, and which had resisted all the means and efforts of these *skilful* enemies of the benevolent bishop. The cases are striking ones, and I know from experience the remedy to be valuable. (For a detailed account of the effects of tar-water, see vol. i., article PULMONARY CONSUMPTION.)

Employment.—We give internally the infusion of the pitch, white, and other pines, as a drink, or in pills made of the gum; externally, in the form of plasters, spread on cloth or leather, for lumbago, rheumatism, and local pains. The gum itself, spread on leather, makes an excellent strengthening plaster. Digested in wine, it is a valuable remedy in rheumatic affections and obstructed menses. The oil of tar is useful in pain in the breast: the dose is ten drops three or four times a day, to be given in milk.

GENUS QUASSIA—(Immediately follows the PINUS).—Petals 5; nectary 5-leaved; pericarp 5, distant, each having one seed.

Synonym.—PICRÆNA.

NO. 357.—QUASSIA.

Common Names.—Bitter-wood, Bitter Ash, &c.

Q. EXCELSA.—Flowers polygamous; stamens 5; leaves pinnate; leaves opposite, petioled; common stalk naked.

Description.—As its name imports, this species of quassia is a lofty and handsome tree, often attaining one hundred feet in height, with a straight, smooth, tapering trunk, which is frequently three feet in diameter near its base, and covered with a smooth gray bark. The leaves are pinnate, with a naked petiole, and oblong pointed leaflets standing upon short foot-stalks, in opposite pairs, with a single leaflet at the end. The flowers are small, of a yellowish-green color, and disposed in panicles; they are polygamous and pentandrous. The fruit is a small black drupe. This species inhabits Jamaica and the Caribbean islands, where it is called *bitter ash.* The wood is the officinal portion.

Quassia comes in cylindrical billets of various sizes, from an inch to nearly a foot in diameter, and several feet in length. These are frequently invested with a whitish smooth bark, brittle and but slightly adherent, and possessing in at least an equal degree the virtues of the wood. Their shape and structure clearly evince that they are derived from the branches or trunk, and not, as some suppose, from the root of the tree. In the shops they are usually kept split into small pieces, or rasped.

Properties.—The wood is at first whitish, but becomes yellow by exposure. It is inodorous, and has a purely bitter taste, which is surpassed by that of few other substances in intensity and permanence. It is composed of lignin, gummy matter, some salts of lime, a minute trace of volatile oil, and a peculiar neutral bitter principle which has been called QUASSIN by Dr. Thomson, but improperly, as this preparation is of complex constitution.

Quassia has not been very long known as a medicine. About the middle of the last century, a negro of Surinam, named Quassi, acquired considerable reputation in the treatment of the malignant fevers of that country, by a secret remedy, which he was induced to disclose to Mr. Rolander, a Swede, for a valuable consideration. Specimens were taken to Stockholm by this gentleman in the year 1756, and the medicine soon became popular in Europe. The name of the negro has been perpetuated in the generic title of the tree. But the quassia of Surinam is not now in use, having been superseded by the product of the *Quassia excelsa*, from the West Indies. It is said to be largely consumed in England by the brewers, who employ it to impart bitterness to their liquors.

This article is one of the most powerful of the pure bitter tonics, and is said to be somewhat narcotic. It is very proper in dyspepsia, the result of debility of the digestive organs, and is particularly useful in convalescence from intoxication. The infusion forms an excellent vehicle for alkaline remedies in the acidity of the stomach of gouty and rheumatic habits, and for the saline purgatives in the constipation of dyspepsia. It is likewise no mean anthelmintic, destroying the worms, or preventing the formation of their sustenance.

Employment.—The infusion is used in doses of from one to two ounces Orange-peel renders it more grateful to the stomach.

Incompatibles.—Nitrate of silver, and the acetates of lead.

Adulterations.—Other wood, resembling it in appearance, is often substituted; but this can be detected by its wanting the pure bitter taste of quassia. The infusion of the spurious quassias is colored blackish by the sesqui-salts of iron, which does not happen with the true.

NO. 358.—SIMARUBA.

Common Names.—Simaruba Quassia, Wing-leaved Quassia, Mountain Damson, Bitter Damson, Stave-wood, &c.

Q. SIMARUBA.—Flowers monœcious; leaves abruptly pinnate; leaflets alternate, not quite sessile; petiole naked; clusters panicled.

Description.—This tree is found in the West Indies and Guiana. In Jamaica it is called the mountain damson. It is a tree of considerable height and thickness, having alternate branches, with a bark which in the old tree is black and somewhat furrowed, in the young is smooth, gray, and marked here and there with broad yellow spots. The leaves are alternate and abruptly pinnate, with a naked petiole to which the leaflets are alternately attached by short foot-stalks. The leaflets are nearly elliptical, on the upper surface smooth and of a deep-green colór, on the under whitish. The flowers appear in November and December, are of a yellow color, and are disposed in long axillary panicles. In some descriptions they are stated to be monœcious, in others diœcious. According to Dr. Wright, the female flowers are never found in Jamaica on the same tree with the male. The number of stamens is ten.

Properties.—The bark of the root is the part used in medicine, which is brought to us in long pieces of various sizes, rolled or curled inward. It is fibrous, tough, light, of a grayish color externally, and yellow internally; scaly, warted and marked with prominent transverse furrows. It is inodorous, but powerfully bitter, and contains a resinous matter, volatile oil of the odor of benzoin, acetate of potassa, an ammoniacal salt, malic acid, quassin, malate and oxalate of lime, some mineral salts, ulmine, and woody matter.

Simaruba is a valuable tonic and astringent in chronic diarrhœa, dysentery, and intermittent and remittent fevers. It proved remarkably successful in France, in the treatment of an epidemic dysentery, during the years 1718–'20, when ipecacuanha, mild purgatives and astringents, and all the medicines usually employed in such cases, appeared rather to aggravate than to relieve the disease. Authors generally agree as to its efficacy in obstinate diarrhœa and dysentery, yet as a bitter tonic it is much inferior to many remedies of that class. It was first introduced into France in 1713, from Guiana, where it had become celebrated as a remedy for dysentery.

Employment.—It is not given in powder, but in infusion in the proportion of from two to three drams to a pint of water. The dose is from one to two ounces, with two grains of ipecacuanha, twice or three times a day.

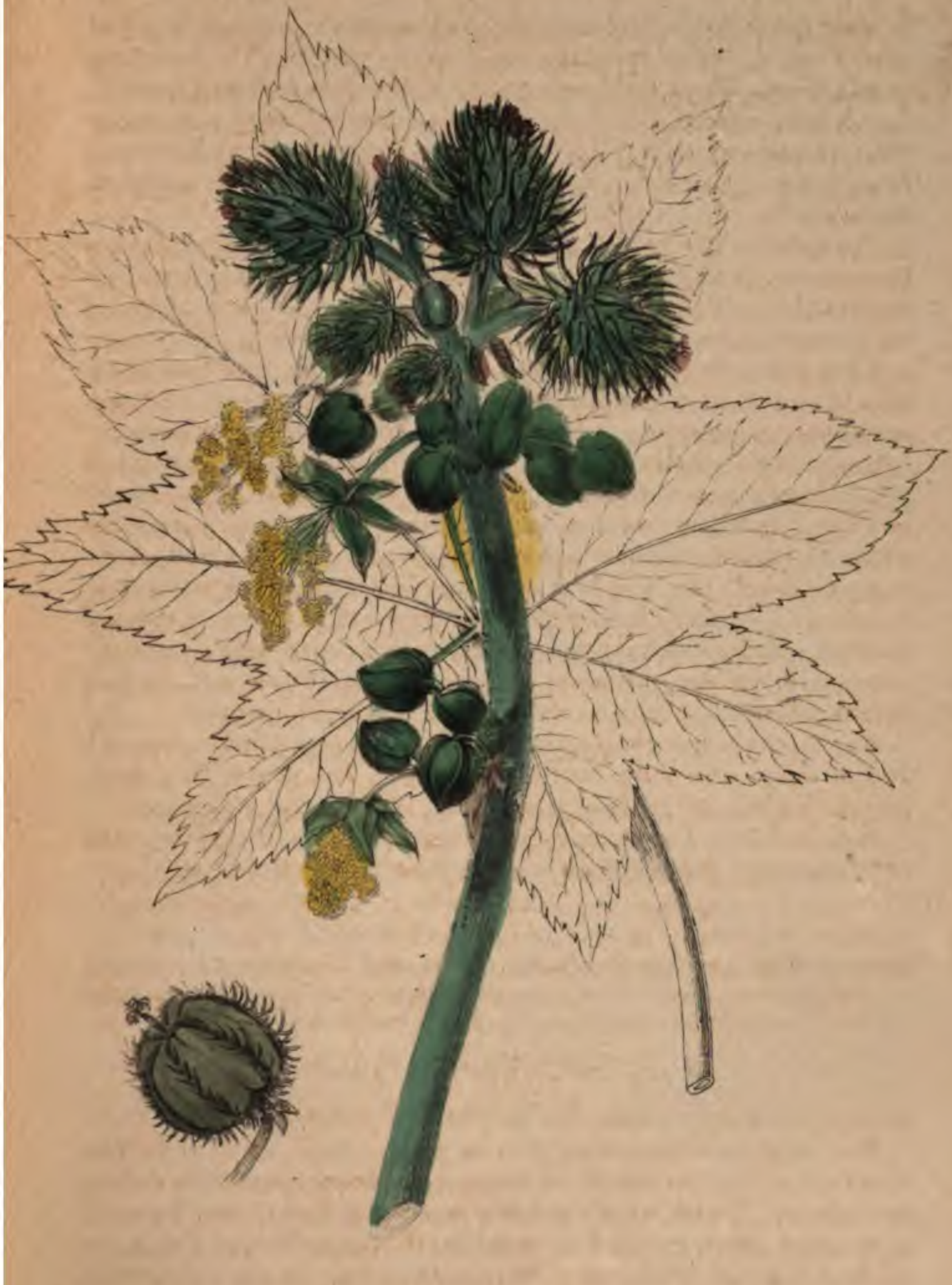
Incompatibles.—Lime-water; alkaline carbonates; the salts of lead, mercury, and silver; and astringent vegetable infusions and decoctions.

GENUS RICINUS—(Immediately follows the QUASSIA).—Staminate flowers—calyx 5-parted; corol none; filaments numerous, filiform. Pistilliferous flowers—calyx 5-parted; corol none; styles 3, cloven; capsule 3-celled, 3-valved; seed solitary.

NO. 359.—CASTOR-BEAN.

R. COMMUNIS.—Leaves peltate, somewhat palmate; fruit prickly

Description.—The castor-oil plant, or *palma Christi*, attains in the East Indies and Africa the character of a tree, and sometimes rises thirty or forty feet in height. In the temperate latitudes of North America and Europe it is an annual plant; though it is stated by M. Achille Richard that in the south of France, in the vicinity of Nice, on the seacoast, he saw a small wood consisting entirely of this species of *Ricinus*. The following description applies to the plant as cultivated in cool latitudes: The stem is of vigorous growth. erect, round, hollow, smooth, glaucous, somewhat purplish toward



Ricinus communis.

the top, branching, and from three to eight feet or more in height. The leaves are alternate; peltate, or supported upon foot-stalks inserted into their lower disk; palmate, with seven or nine pointed, serrate lobes; smooth on both sides, and of a bluish-green color. The flowers are monœcious, stand upon jointed peduncles, and form a pyramidal terminal raceme, of which the lower portion is occupied by the male flowers, the upper by the female. Both are destitute of corolla. In the male flowers the calyx is divided into five oval, concave, pointed, reflected, purplish segments, and encloses numerous stamens, which are united into fasciculi at their base. In the female the calyx has three or five narrow lanceolate segments; and the ovary, which is roundish and three-sided, supports three linear, reddish stigmas, forked at the apex. The fruit is a roundish glaucous capsule, with three projecting sides, covered with tough spines, and divided into three cells, each containing one seed, which is expelled by the bursting of the capsule.

This species of *Ricinus* is a native of the East Indies and northern Africa, has become naturalized in the West Indies, and is cultivated in various parts of the world, in no country perhaps so largely as in the United States. New Jersey, Virginia, North Carolina, and the states upon the right bank of the Ohio, are the sections in which it is most abundant. The flowers appear in July, and the seeds ripen successively in August and September. The part employed in medicine is the fixed oil extracted from the seeds. These are about as large as a small bean, oval, compressed, obtuse at the extremities, very smooth and shining, and of a grayish or ash color, marbled with reddish-brown spots and veins. At one end of the seed is a small yellowish tubercle, from which an obscure longitudinal ridge proceeds to the opposite extremity, dividing the sides upon which it is situated into two flattish surfaces. In its general appearance the seed is thought to resemble the insect called the *tick*, the Latin name of which has been adopted as the generic title of the plant. Its variegated color depends upon a very thin pellicle, closely investing a hard, brittle, blackish, tasteless, easily-separable shell, within which is the kernel, highly oleaginous, of a white color, and a sweetish taste, succeeded by a slight degree of acrimony. The seeds easily become rancid, and are then unfit for the extraction of the oil, which is acrid and irritating.

Taken internally the seeds are powerfully cathartic, and often emetic; two or three are sufficient to purge, and seven or eight act with great violence. This property depends upon an acrid principle, which has by some been thought to exist exclusively in the integuments, by others in the embryo. But it is now satisfactorily ascertained that the integuments are inert; and Guibourt maintains that the principle alluded to pervades the whole kernel, in connexion with the oil. This principle is volatile, and dissipated by the heat of boiling water. By a much greater heat the oil itself becomes altered, and acquires acrid properties.

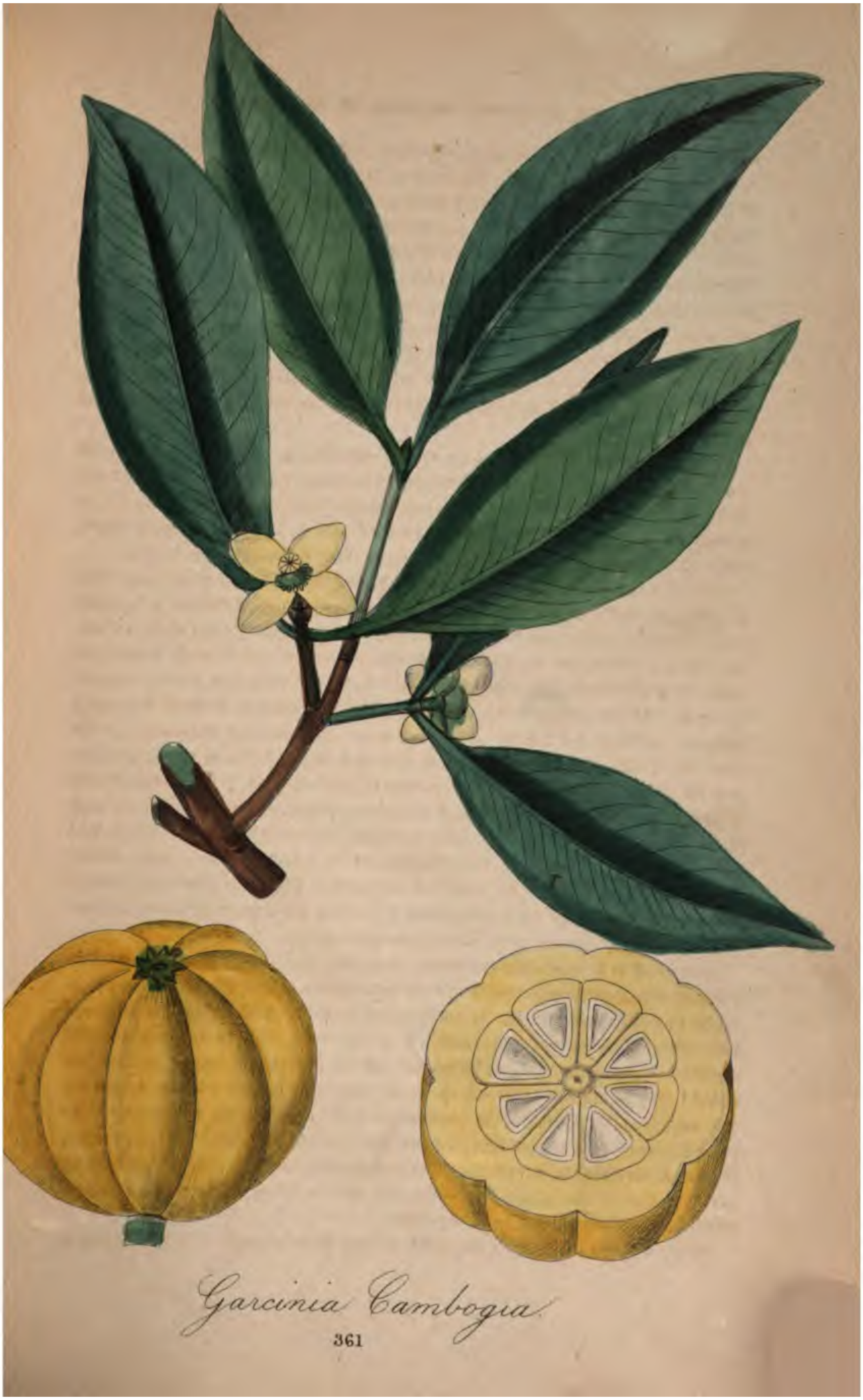
The oil may be extracted from the seeds in three ways: first, by decoction; second, by expression; and third, by the agency of alcohol. The process by decoction is that practised in the East and West Indies, and consists in bruising the seeds previously deprived of their husk, and then boiling them in water. The oil, rising to the surface, is skimmed or strained off, and afterward again boiled with a small quantity of water to dissipate the acrid principle. To increase the product it is said that the seeds are sometimes roasted. The oil is thus rendered brownish and acrid, and the same result takes place in the second boiling, if care is not taken to suspend the process soon after the water has been evaporated. Hence it happens that the West India oil has generally a brownish color, an acrid taste, and irritating properties. The process for obtaining it by means of alcohol has been practised in France, but the product is said to become rancid more speedily than that procured in the ordinary mode.

The oil is obtained in this country by expression. One bushel of good seeds yields five or six quarts, or about twenty-five per cent. of the best oil. A large proportion of the drug consumed in the eastern section of the Union is derived, by way of New Orleans, from Illinois and the neighboring states, where it is so abundant that it is sometimes used for burning in lamps.

Properties.—Pure castor-oil is a thick, viscid, colorless fluid, with little or no odor, and a mild though somewhat nauseous taste, followed by a slight sense of acrimony. As found in the shops it is often tinged with yellow, and has an unpleasant smell; and parcels are sometimes though rarely met with, of a brownish color, and hot, acrid taste. It does not readily congeal by cold. When exposed to the air it slowly thickens, without becoming opaque, and it ranks among the drying oils. It is heavier than most of the other fixed oils, from which it differs also in being soluble in all proportions in cold absolute alcohol. By the action of nitrous acid, it is converted into a peculiar oleaginous body called PALMIN, which yields *palmic acid* and glycerin when saponified. Alkalies unite with castor-oil, forming soaps, and determine the formation of three acids, the *ricinic*, *ricin-oleic*, and *ricino-stearic acids*, which can be obtained separate. Hence it has been inferred that the oil consists of three principles, for which the names of RICIN, RICIN-OLEIN, and RICINO-STEARIN, have been proposed.

Castor-oil is a very mild cathartic, emptying the bowels of their contents without occasioning any gastro-intestinal irritation, which renders it very useful in bowel-complaints, by its oleaginous particles lubricating the inflamed mucous surface of the intestines. But where we wish to make a decided impression upon the system, or to unload the bowels of impact mucus, we should not administer this oil, as it will pass the bowels without removing any mucus, bilious matter, or producing much effect upon the system. In piles this medicine is beneficial, on account of its mild laxative properties. It is also serviceable in colics and in strangulated hernia. It is excellent in inflammation of the stomach and bowels, and in all diseases where an unirritating, emollient purgative is required.

When this oil is acrid to the taste it may be rendered mild by boiling it



Garcinia Cambogia

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with a small proportion of water. If turbid, it should be clarified by filtration through paper. On exposure to the air it is apt to become rancid; in this state it should never be administered in any form of disease, as its mild properties are converted into those of an irritating quality, and produce effects resembling those of a drastic nature.

Employment.—The dose of castor-oil is from half an ounce to an ounce, poured on peppermint-water, or in boiled milk, which in some degree disguises it. Taken in minute doses, this oil often cures obstinate coughs.

NO. 360.—ERGOT.

Common Names.—Spurred Rye, Horned Rye, &c.

Description.—Spurred rye (*Secale cornutum*) is an undetermined fungiform excrescence which takes place under peculiar circumstances between the valves of the glume of several *Cereales*, in the place of seeds, especially of our common rye, and which, from its resemblance to the spur of a cock, has received the name of *ergot*, adopted from the French. It is elongated, recurved, cylindrical, swollen in the middle, and generally marked on one side with a longitudinal furrow. It is brittle, hard, horny, of a slight violet color externally, whitish with a shade of violet internally, and of an acrid and rather pungent taste.

Properties.—Ergot, if taken as an aliment, is attended with serious consequences, such as violent convulsions, acute and burning pains in the extremities, gangrene of those parts, and even death. The name of *ergotism* is given to all these phenomena. It consists of 31 per cent. of a thick white oil, 5·50 of ozmazome, 9 of mucilage, 7 of gluten, 11·40 of fungin, 3·50 of coloring matter, 26 of fecula, and 3·10 of salts.

In small doses, this article appears to act in a peculiar manner upon the uterus, the parenchyma of which it excites in a powerful degree. It is administered in difficult parturition when there is great debility of the uterus, and in hemorrhage (so often fatal), produced by inactivity of this organ; but it must not be given so long as there are natural pains present sufficient to expel the child. It is likewise indispensable that the mouth of the womb (*os tincæ*) be sufficiently dilated before we attempt the exhibition of the ergot.

Dr. W. P. Dewees, of Philadelphia, who is a warm advocate for the use of this substance, when timely and properly exhibited, thus remarks:—

"As regards myself, I have the most firm reliance upon the powers of the ergot; and the character of its action is so distinctly marked, that a very little observation will enable us to detect it..... When ergot has been administered with success, we find the uterine effort not only more quickly repeated, and more powerfully exerted, but these efforts are accompanied with less suffering than the same apparent exertions of this organ when not urged by this drug." Dr. Dewees' cardinal rules for the more successful employment of ergot are—

"1. It should never be given before the membranes are ruptured, the os uteri dilated, and the external parts disposed to yield.

"2. It must not be used so long as the natural pains are efficient, and competent to the end.

"3. But should they flag from any cause, it may be given, provided the labor be a natural labor, according to our acceptation of the term 'natural labor'—that is, when the head (if well situated), the breech, the feet, or the knees, present; for, independently of any accident which may complicate the labor, it is sometimes desirable, for the safety of the child, to hasten it when the natural powers are incompetent to this end.

"4. And if the labor be accompanied by any such accident as flooding, convulsions, syncope, &c., it may sometimes be employed to great advantage, provided rules 1 and 2 are not violated.

"5. It may be used, very often with much advantage, in every kind of premature labor; and at full time, when the placenta is not thrown off, and the uterus is found in a state of atony.

"6. Where flooding takes place after the rupture of the membranes, the os uteri well dilated, the pains feeble, but the child well situated.

"7. Where the head of the child has been left in the uterus by being separated from its body.

"8. Where the uterus is painfully distended by coagula."

The same author is decidedly against the use of this article in alarming hemorrhage before delivery.

Dr. Allier, of Marcigny, France, in an article on the use of ergot in the treatment of the divers kinds of retention of urine, lays down the following conclusions:—

"1. The ergot restores to the bladder its contractility, impaired by immoderate distension of its coats.

"2. It has acted in this manner when all other means have failed.

"3. Paralysis of the bladder, resulting from cerebral hemorrhage, has frequently given way on the use of the ergot.

"4. The ergot has had no effect on the paralysis of the limbs, resulting from apoplexy.

"5. The secale is just as efficacious in vesical paralysis, when the lesion of the nervous centres is not clearly established.

"6. Paralysis of limbs, depending on such lesions, has not been benefited by the ergot.

"7. This substance shortens the duration of vesical paralysis, which, by the use of the catheter, is generally removed in a period of time which may vary considerably.

"8. It has no effect in retention of urine resulting from enlargement of the prostate gland.

"9. It acts, in such cases, by increasing the contractile power of the bladder, without causing the prostate to diminish in size.

"10. Once in fourteen times the ergot has had no effect whatever: this occurrence happens in pretty much the same proportion with the more approved remedies.

"11. As the effects of the ergot are rather evanescent, it should be given in small and oft-repeated doses.

"12. The dose may be raised to seventy-five grains a day.

"13. It is useful to give it afterward in decreasing doses, for eight or ten days after the cure, to render the latter more certain.

"14. The phenomena produced by the stimulating action of ergot upon the nervous system, although generally not of an alarming description, are sometimes, however, so intense as to render it prudent to suspend its use for a few days."

M. Bonjeau has very recently examined with great care the chemical, toxicological, and therapeutical properties of this substance, and has ascertained that it contains two active principles, distinct from each other—a remedial and a poisonous agent. The first is a reddish-brown extract, which he has named ERGOTINE, very soluble in water, which is inoffensive, and possesses in the highest degree the valuable obstetrical and hemastatic properties in the ergot, and also in hemorrhages of the womb, &c. The other is a fixed, colorless oil, very soluble in cold ether, insoluble in boiling alcohol, in which alone reside the poisonous properties of this substance, and which is exceedingly violent in its action on animals. To obtain this oil it is necessary to extract it with cold ether, and in the operation to avoid all influence of heat. From these results it would appear that water must be the best menstruum for extracting the active principles of the ergot of rye.

Employment.—In our employment of the powder we give from ten to thirty grains, suspended in four ounces of a proper menstruum. The decoction or infusion is prepared by adding from thirty to forty grains of the ergot to a pint of hot water. A tablespoonful of this may be given every fifteen minutes.

WA-A-HOO.

THE article (No. 91) to which we have affixed this caption, although one of the plants known by the name of *wa-a-hoo*, and sometimes employed in medicine, is not the true WA-A-HOO of the shops; that being an *Euonymus* (No. 49), and the article to which Dr. Lapham refers on page 105. There are two of these shrubs, both called by the same name, which seem to possess similar properties—the *E. atropurpureus*, described on page 71, and the *E. americanus*.

The *E. americanus* is a smaller shrub than the *atropurpureus*, having smooth, four-angled branches. The leaves are sub-sessile, lanceolate, serrate, smooth, from one to two inches long, and about two thirds as wide;

peduncles rather long and round, and from two to four flowered. The flowers are larger than those of the *Euonymus atropurpureus*, and yellow or pink-colored; capsules of a dark-red, and warty. A bright-red aril covers the seed. These plants flower in June, and are found growing in rich woodlands and thickets in New York, and in the fertile intervales of the western states.

Dr. W. W. Hadley, in an excellent essay on these plants, makes the following valuable observations: "The medicinal properties of these shrubs are peculiar and various. Their medical qualities are not well understood by our physicians generally; for I am satisfied that if they were properly estimated, they would be regarded as among the best agents in the materia medica. As a tonic and laxative, the wa-a-hoo answers an excellent purpose in the treatment of dyspeptic difficulties; it imparts tone to the stomach, and promotes the digestive functions, while at the same time its laxative properties overcome that tendency to constipation which is so frequently an attendant symptom upon this class of diseases. In chronic hepatitis, and those long-standing complaints characterized by torpidity of the liver and portal circle, accompanied by headache, pain in the side, dry skin, sallow complexion, constipated bowels, &c., there are perhaps few agents better calculated to fulfil important indications and improve the condition described than the one under consideration. It seems to permanently exalt the action of the liver, and give tone to that viscus, while at the same time it promotes the secretion of healthy bile; and it also encourages the discharge of that which has already accumulated, and which is of a vitiated character. It is peculiarly useful in all diseases dependent upon the hepatic function, and has often proved successful in removing torpidity of the liver, after the preparations of hydrargyrum had been used in vain to fulfil the same indication. Practitioners will seldom or never find it to fail in answering fully their expectations in all diseases of this class. Indeed, many of our 'old-school' brethren, having obtained some knowledge of its virtues, often substitute its gentle, mild, yet certain action, for that pernicious action caused by the employment of mercurial preparations, and have been highly gratified by the beneficial results.

"Not only in hepatic disturbances have its properties been manifestly beneficial, but also in pulmonary diseases it exerts a remarkably useful remedial agency.

"In tubercular phthisis it displays alterative powers, removing depositions of tuberculous matter, and by its tonic and restorative qualities induces a healthy action throughout the system, and thus aids in furnishing pure, rich, and healthy blood, to supply the waste that has been consequent upon diseased action. It may also be regarded as a useful expectorant. Where a mild agent of this class is indicated, it will be found to possess peculiar properties which promote expectoration from the respiratory organs.

"One great advantage which this article possesses over many other agents is, that while it acts as an alterative in promoting the secretions, or as an expectorant or laxative in assisting those peculiar functions of the body directly, it at the same time displays its tonic influences, sustaining the system while laboring under the depressing influence of disease, and restoring the deranged secretions, thus promoting the regular and normal performance of the functions of the system generally."

MATICO.

Since writing our article on this plant (No. 18), we have noticed the following remarks in the "Western Journal of Medicine," which we deem worthy of attention:—

"Soon after Dr. Jeffreys called attention to it, the matico, as an external application, was used with success in the Dundee Infirmary, by Dr. Munro. It exerted a happy influence over the hemorrhage from 'a considerable branch of the temporal artery.' Compression and cold applications failed to give any relief, but the application of the leaf (not the powder) arrested the hemorrhage. A hemorrhage from a wound of a branch of the palmar artery was treated in the same way with equal success.

"The external use of the leaf having proved highly successful, a resort was made to its internal use. Dr. Jeffreys reports the case of a patient 'who had been subject for two months to excessive discharges of pure blood and coagula from the vagina, amounting to nearly a quart in a few days, occurring every ten days or a fortnight, and followed by a serous and muco-purulent discharge.' The usual treatment failed, and health was restored in a few days by the use of a wineglassful of the infusion of matico four times daily. In another case (a hemorrhage from the bowels), an infusion of matico, in the proportion of half an ounce to the pint, of which three tablespoonfuls were taken every four or six hours, cured the patient by the use of three doses.

"In hemorrhage of the bowels during fever, Dr. Watmough states, in the 'Provincial Medical Journal,' that the infusion of senna-leaves and the matico, two drams of each in a pint of boiling water, and taken frequently in doses of a wineglass measure, is very successful, particularly in the melæna of typhus fever.

"Dr. Horne, of London, thus speaks of matico as an anti-hemorrhagic medicine: 'A patient suffered from an alarming epistaxis, occurring spontaneously, in October last. All remedies of the usual character failed; the case was considered beyond the reach of relief, and the brothers of the patient were sent for. One of the brothers commenced the use of the matico, and in six hours the hemorrhage ceased, after having continued for days. There is a hemorrhage diathesis in the family, and it has descended to the children of one of the brothers.'

"A relative of the family was rapidly sinking toward the grave, from disease and uterine hemorrhage, the latter of which baffled the ordinary remedies. Under the use of the matico, the bleeding ceased, and the patient recovered.

"These are the testimonials to the value of matico, as a styptic, which we have gleaned from the European medical journals. We are far from supposing that this Peruvian plant will displace all other means for arresting hemorrhage; the utmost that we hope for it is, that it is really useful, and may take its place confidently among the means for controlling dangerous bleeding."

GAMBOGE.

The plant which yields commercial or Siam gamboge is not yet ascertained; it is conjectured by the Edinburgh college to be a species of *Hebradendron* nearly allied to the *Hebradendron gambogioides*, from which plant Ceylon gamboge is procured; but more recent investigations tend to prove that it is the produce of the *Garcinia cochinchinensis*. It belongs to the Linnæan class and order *Monœcia Monadelphia*.

Description.—This is said to be a handsome tree of moderate size, with opposite, stalked leaves; unisexual flowers, sessile and axillary; and a pleasant, saccharine fruit, about the size of a cherry, four-celled, each cell one-seeded.

In Ceylon, gamboge is procured by making incisions into the bark of the tree or removing a piece of it, whence a viscid, bright-yellow juice exudes, which, when dried by exposure to the sun in shallow bowls, concretes into a hardened mass. In Siam it is said to be obtained by breaking across the young branches and leaves, and collecting the juice that drops from them: be this as it may, the finer qualities are allowed to dry in the hollow stems of the bamboo-cane, or probably the juice is collected in them; and of late it has been more than once imported in the reeds.

The name *gummi gutta*, by which gamboge is generally known on the continent of Europe, probably originated from the circumstance that the juice escapes from the plant by drops. The officinal title was undoubtedly derived from the province of Cambodia, in which the gum-resin is collected. It was first brought to Europe by the Dutch, about the middle of the seventeenth century.

We import gamboge from Canton and Calcutta, whither it is carried by the native or resident merchants. There is no difference in the appearance or character of the drug as brought from these two ports—an evidence that it is originally derived from the same place.

Commercial or Siam gamboge is generally met with in two forms: that of cylinders, sometimes hollow, more frequently solid—*pipe gamboge;* and in irregular-shaped masses—*cake* or *lump gamboge.* Pipe gamboge is of a rich, reddish-yellow color, generally greenish and dusty externally; inodorous, tasteless at first, but soon causing a sense of acridity in the throat; brittle, with a smooth, glistening, conchoidal fracture. Lump gamboge is of a duller color, its fracture is splintery with scarcely any lustre, and it contains small fragments of wood, and many air-vesicles. *Ceylon gamboge* is not an article of English or American commerce. It is a coarse-looking substance with numerous air-vesicles, of a dull reddish-yellow color with many dark-brown spots.

Properties.—Gamboge is composed of resin *(gambogic acid)*, soluble gum, and a trace of woody fibre; the proportion of the resin, which is the active principle, varies, according to several of Christison's analyses, from 68 to 75 per cent. Gamboge, although not soluble in water, forms a perfect emulsion with it; it is almost entirely soluble in rectified spirit, and sulphuric ether completely dissolves out the resin, leaving the gum.

Gamboge is a drastic cathartic, producing even in small doses frequent and copious watery evacuations, accompanied with much irritation of the stomach and bowels; in somewhat larger doses it occasions vomiting and even sometimes inflammation of the intestinal canal, followed by death. A single dram has proved a fatal dose in more than one instance, the post-mortem appearances being ulceration and mortification of the intestines. In consequence of the distress caused even by medicinal doses of gamboge, it is seldom employed alone as a purgative, but is frequently added to other remedies of this class, either to augment their power, or to produce increased secretion from the alimentary canal. It is chiefly used as a cathartic in dropsical affections, for which it is well adapted, as it both causes a large discharge of serum from the intestines, and stimulates the kidneys to increased action. The combination of gamboge with an alkali, as with carbonate of potash, acts as a diuretic of much power, and such a preparation, under the name of *tincture of gamboge*, is highly praised by many European authors. The resin of gamboge, in somewhat smaller doses, acts precisely similar to the drug itself.

Employment.—This article may be administered in either powder, pill, or emulsion, in doses of from two to five grains, which may be repeated every five or six hours until it operates; it should be always finely powdered and combined with some comparatively inert substance, as sugar, sulphate of potash, or cream of tartar.

In cases of poisoning with gamboge, emollient and demulcent drinks should be given, and similar enemata administered; to be followed by small but repeated doses of opium, and the warm bath.

Adulterations.—The inferior varieties of gamboge are adulterated with some amylaceous matter; they also contain lignin. The former is detected by a cooled decoction becoming greenish on the addition of tincture of iodine, and the presence of the latter may be known by the fracture not being smooth and conchoidal.

NEW REMEDIES.

I AM indebted to Dr. Dunglison's excellent work, "NEW REMEDIES," for the following valuable articles on plants recently introduced into the materia medica, and which are deserving the attention of the physicians of this country.

◆

CAINCA-ROOT.

(CLASS V., ORDER I.—*Chiococca anguifuga.*)

Description.—This shrub grows wild in the forests of Brazil, especially in the province of Minas Geraes, and the root is used there against the bites of serpents. This is of the thickness of the finger, round, and knotty; the surface smooth or irregularly wrinkled; the wood tough and of a whitish color; the smell disagreeable, especially that of the fresh root; and the taste at first like that of coffee, but afterward nauseous and pungent. The bark of the root alone possesses efficacy, the woody portion having no action. The bark separates readily from the wood; it is thicker on the root itself than on the branches, and on the outside is of an amber or brownish yellow-green color, yellower and brighter on the youngest parts; the epidermis is not easily separated.

Properties.—The effect of cainca-root seems to be especially exerted on the digestive and urinary organs. It occasions watery evacuations, and diuresis. According to Von Langsdorff, it is a highly efficacious emmenagogue, possessing also (to use his own language) considerable resolvent virtues, and hence employed in dropsies that are connected with obstructions in the abdomen. Riecke asserts that he had occasion to employ it in two cases of ascites complicated with induration of the liver. He had no expectation of effecting a radical cure, but it afforded no palliation; diuresis was not excited, while nausea, colic, and diarrhœa, supervened, so that he discontinued it: he gave it in decoction. Others have observed the same inconvenience from its use.

The main diseases in which cainca is recommended are—1. Dropsies, in which many favorable trials have been made by Von Langsdorff, Spitta, Guddoy, Engler, François, Wagner, Solieer, Robredo, &c. 2. Intestinal worms, against which it appears to act like other drastics. 3. Obstructed menstruation: on this subject, however, further trials are needed. When it operates as an emmenagogue, it is probably altogether like cathartics that act more especially on the lower part of the bowels; that is, by contiguous sympathy. 4. M. François has recommended it highly in catarrhus vesicæ, but the experience of others has not confirmed this. It may be mentioned that in its native country it is used for rheumatic pains; in a peculiar kind of pica experienced by the negroes of South America; and, as already remarked, against the bites of serpents.

Employment.—Cainca is given in various forms—powder, infusion, and decoction; and, besides these, a tincture and an extract have been made of it. A sirup and a wine have also been recommended. To form the latter, one ounce of the powdered root is infused in a pint of wine; the tincture is made with one part of the root and eight parts of alcohol at 20°. The alcoholic extract is considered to be the most uniform in strength, and has therefore been preferred by many. The sirup is formed by dissolving two and a half drams of the extract in a little alcohol, mixing this with a pint of hot simple sirup, and allowing it to boil for some time, in order that the alcohol may evaporate. The dose of the powder is from one scruple to half a dram in twenty-four hours. It appears, however, to be the most objectionable form, and to give rise to unfavorable symptoms more frequently than the others. Opinions vary as to whether the infusion or the decoction should be preferred. According to Caventou and Pelletier, boiling extracts very well the efficacious parts of the root, and there are cases in which the decoction has rendered essential service after the infusion had been administered without success. Of the decoction, from one to three fluid drams are given in a day. Of the extract, the dose in the twenty-four hours is from twenty to thirty grains; of the tincture, from one to two fluid drams.

CHIRAYTA.

(Class V., Order II.—*Gentiana Chirayita.*)

Description.—Gentiana chirayita is a native of the northern part of India, whence it is imported into England, tied up in bundles. It has been long in use there.

Properties.—The herb and root are intensely bitter, and produce on the economy the ordinary effects of the pure bitters. They strikingly resemble gentian, and are employed in India in dyspepsia, and as an anti-periodic in intermittents. The plant has been highly extolled by Drs. Currie, Sigmond, and others. These gentlemen consider that the secretion from the liver improves under its use; and the latter advises it not only in torpor of the digestive function, but he prefers it to sarsaparilla where the latter is considered to be indicated—as after large quantities of mercury have been taken, or where profuse salivation has been induced. It has also been advised in atonic leucorrhœa.

Employment.—Gentiana chirayita yields its virtues to alcohol and water. The tincture is made by macerating five ounces of the chirayita for fourteen days in two pints of diluted alcohol. Dose, a teaspoonful. The dose of the powder is one scruple.

BEAKED HAZEL.

(Class XIX., Order XII.—*Corylus rostrata.*)

Description.—This is a shrub two or three feet high, which grows in the mountainous regions of North America. The nut which it produces is of an ovate shape, surrounded by a coriaceous and scaly involucre or cupula, terminating in a tube one and a half inches long, covered with short and thick bristles, very similar to those of *Mucuna* or cowhage.

Properties.—The short, stiff bristles have been found to possess similar anthelmintic virtues with *Mucuna*, and to be equal to it in all respects. Mr. Dubamel states that Dr. Heubener, of Bethlehem, Pennsylvania, from whom he obtained the specimen described by him, had employed it in cases of worms, and was much pleased with it.

Employment.—It may be given, like *Mucuna*, in sirup, molasses, or other consistent vehicle, and in the same doses.

MADEIRA-NUT.

(Class XIX., Order XII.—*Juglans regia.*)

Description.—This tree is a native of Persia, whence it was carried to Greece, Italy, France, &c. The variety *Fraxinifolia*, distinguished by its nine or ten oblong, serrate, and smooth leaflets, is said to be indigenous to this country.

Properties.—The leaves of this tree have been highly extolled by M. Négrier as superior to all other anti-scrofulous remedies. He prescribed them to 56 patients affected with different forms of scrofula. Of these, 31 were unequivocally cured, 18 experienced a very manifest improvement, and the majority were in course of cure. Four derived no benefit as regarded their sores. Four children died during the treatment: two of tubercular phthisis, one of acute encephalitis, and the fourth of double pneumonia. The extract of the leaves, which may be ranked in the class of slightly aromatic bitters, M. Négrier found to be almost constantly efficacious in scrofulous affections, and in no case did he observe it exert any unpleasant action on the economy.

The preparations of walnut-leaves excite, in the first instance, digestion and circulation, and, according to M. Négrier, communicate remarkable energy to all the functions; and he is disposed to think that they have a special action on the lymphatic system.

Employment.—The infusion of the leaves is made by throwing a large pugillus (pinch) of the cut leaves into eight ounces of boiling water. This is sweetened with sugar, or with sirup. Two or three cups may be prescribed daily, and sometimes as many as five.

The decoction may be made by boiling, for ten or fifteen minutes, a small handful of the leaves in two and a half pints of water. It is advantageously used as a lotion, and as a dressing to scrofulous ulcers—lint being wetted with it and applied to them. It has also been used as a partial and general bath, and as an injection into fistulous openings. Injections of a very concentrated decoction of the leaves, of the temperature of the room, whatever may be the season, have been used with much success in leucorrhœa by M. Vidal.

JAMAICA DOGWOOD.

(Piscidia erythrina.)

Dr. Hamilton, during a visit to the Antilles, was struck with the powerfully narcotic effects produced on fish, by the bark of the root of this tree. Inferring that it might be useful as a medicine, he prepared a tincture, made by macerating the bark of the roots, gathered during the period of inflorescence, and before the appearance of the leaves, in four times its weight by measure of rectified spirit for twenty-four hours, and filtering. He took, when much afflicted with toothache, a dram measure of this mixture in a tumblerful of cold water, drank it off, and watched its effects, which were markedly anodyne and hypnotic; and on awaking from sleep, his pain had wholly disappeared. He subsequently used it as a topical application to carious teeth, introducing it on a dossil of cotton into the diseased cavity; and after a single application, he never heard of a return of pain in that tooth.

The formula for Dr. Hamilton's tincture is one ounce of the bark to four fluid ounces of rectified spirit. Dose, one fluid dram and less, in a glass of water.

SUGAR-CANE.

(Class III., Order II.—*Saccharum officinarum.*)

Description.—The sugar-cane, which is supposed to be a native of the East Indies, though now very extensively introduced into the United States and other parts of the American continent, and the West India islands, is one of the most valuable in a commercial point of view, as well as most beautiful productions of the vegetable kingdom. The Chinese date the cultivation of this precious plant from periods of the most remote antiquity: but Dr. Roxburgh, of England, ascertained that the sugar-cane of China was different from the *Saccharum officinarum*, and he has published it as the *Saccharum sinense*. That the sugar-cane is indigenous to the southeastern parts of Asia, we have the strongest reason to believe; for Marco Polo, a noble Venetian, who travelled in the East about the year 1250, found sugar in abundance in Bengal. Vasco de Gama, who doubled the cape of Good Hope in 1497, relates that a considerable trade in sugar was then carried on in Calicut. From the East Indies the sugar-cane was carried, toward the close of the thirteenth century, to Arabia, whence the cultivation of it soon extended to Nubia, Egypt, and Ethiopia. Mr. Bruce found it in Upper

Egypt, and John Lioni says that a considerable trade was carried on in sugar in Nubia in 1500; it abounded also at Thebes, on the banks of the Nile, and in the northern parts of Africa, about the same period. From Africa it migrated into Italy, and the Moors introduced it into Spain. The culture and manufacture of sugar was thence carried by the Spaniards to the Canary islands in the fifteenth century; but prior to that period, the Portuguese in 1420 carried it from Sicily to Madeira. In 1506, according to Antonio Herrara, the sugar-cane was conveyed by the Spaniards to St. Domingo, and thence extended to the other West India islands and the Brazils, in the former of which it now constitutes one of the chief articles of trade.

Properties and Uses.—Sugar was known to the ancients, but was not used among them as it is at the present day with us. Paulus of Ægina, one of the last Greek writers, who flourished about the middle of the sixth century, is the first author who expressly mentions it.

It was originally called *mel arundinaceum*, viz., reed or cane honey. Lucan, enumerating the eastern auxiliaries of Pompey, describes a people who used the juice of the sugar-cane as a common drink:—

> "Qui bibunt tenerâ dulces ab arundine succos."

The fresh juice of the sugar-cane is extremely nutritious, antiseptic, and laxative. Raw sugar and molasses coincide in medical and alimentary properties with the expressed juice of the cane; and refined sugar, externally applied, is escharotic. In moderate quantities sugar is a wholesome condiment, and it has been observed that the slaves in the West Indies, when abundantly supplied with it, become fat and vigorous during the sugar harvest. When taken in excess, however, it is extremely apt to disagree with the stomach, producing nausea, loathing, thirst, diarrhœa, and general disorder of the primæ viæ. By some it has been asserted that sugar is injurious to the teeth, but many instances are on record of persons who have indulged largely in the use of this luxury without experiencing any inconvenience from it in that respect; and it has been stated of General Bolivar, that during many years of the most active period of his life, and while undergoing great fatigues in the cabinet or the field, the chief part of his nourishment was composed of this article. Dr. Rush affirms that the plentiful use of sugar is one of the best preventives against worms. It is also beneficial in scurvy and some chronic diseases of the skin; but its too liberal use is contra-indicated in calculous disorders, and in hypochondriacal and dyspeptic habits. Sugar taken in large quantites, in both a solid and soluble form, acts chemically on verdigris, while it increases the action of the bowels: it is therefore a valuable antidote to that violent poison. Externally it is sometimes applied to fungous ulcers. It has the property of preserving a number of animal and vegetable substances from decay or putrefaction, and is commonly employed for those purposes. To it we are indebted for the base of our conserves, and our medicated sirups form a useful appendage to the surgery.

ALKALOIDS,

AND ACTIVE PRINCIPLES OF PLANTS.

ACONITINE.

(Aconitina.)

THIS article is prepared from the monk's-hood *(Aconitum napellus)*, No. 198.

Preparation.—Aconite-root, dried and bruised, two pounds; rectified spirit, three gallons; dilute sulphuric acid, solution of ammonia, and purified animal charcoal, of each a sufficiency. Boil the aconite with a gallon of the spirit for an hour in a retort with the receiver adapted to it; pour off the liquor, and again boil the residue with another gallon of spirit and with the spirit recently distilled, and pour off the liquor; let this be done a third time. Then press the aconite, and all the liquors being mixed and strained, let the spirit distil; evaporate what remains to the proper consistence of an extract. Dissolve this in water and strain; evaporate the liquor with a gentle heat, that it may thicken like a sirup. To this add of dilute sulphuric acid, mixed with water, as much as may be sufficient to dissolve the aconitine; then drop in the solution of ammonia, and dissolve the precipitated aconitine in dilute sulphuric acid and water mixed as before; afterward mix the animal charcoal, frequently shaking them during a quarter of an hour. Lastly, strain, and solution of ammonia being again dropped in, that the aconitine may be precipitated, wash and dry it.

Description.—Aconitine is in the form of a white semi-crystalline powder, odorless, and with a bitter taste. It is very soluble in sulphuric ether, less so in alcohol, and very slightly in water. When perfectly pure, this alkaloid is so powerful a poison, that, according to Pereira, "a fiftieth of a grain has endangered the life of an individual." As usually met with it is of a grayish-yellow color, in which state it is very impure.

Properties and Uses.—Aconitine possesses, but of course much more powerfully, the same medicinal virtues as monk's-hood; it has been principally used in the form of ointment in tic-doloreux and other neuralgic pains. But it does not appear to possess sufficient advantages over the alcoholic extract to warrant its employment as a medicinal agent. It can not be administered internally with safety.

SOLUTION.

Take Aconitine, 8 grains;
Rectified Spirit, 2 fluid ounces.—Dissolve.

The foregoing preparation is to be applied externally by means of a small sponge.

OINTMENT.

Take Aconitine, 16 grains;
Rectified Spirit, 16 drops;
Rub well together, and add of Lard 1 ounce.—Mix.

Employed by friction with the finger during several minutes. If there be any abrasion of the cuticle, the external application of aconitine can not be unattended with danger.

These preparations are well adapted to the treatment of painful affections, such as neuralgia, gout, pneumonia, pleurisy, and rheumatic diseases.

ATROPINE.

(Atropina.)

This substance was discovered by M. Brandes in the deadly nightshade, *(Atropa belladonna)*, No. 35, and it is in this salifiable base he considers that all the medical and deleterious properties of the belladonna reside. This principle is now believed to be identical with the vegetable alkaloids called DATURIA and HYOSCIAMIA.

Preparation.—Atropine may be obtained by digesting the decoction of the herb of the *Atropa belladonna* with magnesia; boiling the precipitate in alcohol, and filtering: the atropine crystallizes, on cooling, in needles or colorless, translucent, and shining prisms.

Description.—When obtained quite pure, atropine is in white transparent prismatic crystals, of a silky lustre. It is without odor, but possesses a nauseously bitter, acrid taste. It requires for its solution 500 parts of cold water, the solution having a bitter taste and an alkaline reaction, but is very soluble in alcohol and ether; it combines with acids to form salts.

Employment.—In Germany this alkaloid is much used in the treatment of diseases of the eye. Dr. Wilde, of Dublin, has found a single drop of atropine, No. 1, dropped on the lower lid, to dilate the pupil to double its ordinary size, or rather more, in from five to fifteen minutes after its application, the dilatation lasting for four or five days. He employs the solution of atropine in the same cases as he would extract of belladonna, over which it possesses the advantages of being much more efficacious and cleanly, and of producing neither pain nor irriration when dropped into the eye; it is also free from the objection to which extract of belladonna is liable—that of producing an unpleasant eruption around the eyebrow on which it has been applied.

SOLUTION NO. I.

Take Atropine, 1 grain;
Dilute Nitric Acid, 1 drop;
Rectified Spirit. 3 drops;
Distilled Water, 1 fluid dram.—Mix.

The solutions of the shops, labelled Nos. 2 and 3 contain respectively two and three grains of the alkaloid.

BRUCINE.

(*Brucina.*)

THIS organic salifiable base was discovered in 1819 by MM. Pelletier and Caventon, in the bark of the false angustura (*Brucea antidysenterica*). M. Pelletier has since found it joined with strychnine in the nux vomica.

Preparation.—Brucine is extracted from the bark of the false angustura by a process similar to that pointed out for the extraction of strychnine, with this difference, that in this case the magnesian precipitate should be much less washed, because the solubility of brucine in water is greater than that of strychnine. The brucine is afterward obtained by evaporating the alcoholic liquors which have been used for treating the magnesian precipitate. It is, however, in a resinous form, on account of its not being yet sufficiently pure to crystallize.

In order to purify it, it must be combined with oxalic acid, and the oxalate treated by a mixture of alcohol at 40° and of ether at 60°. The coloring matter will thus be dissolved, and the oxalate of brucine remain under the form of a white powder. Decompose this oxalate by magnesia, and add alcohol to take up the brucine. By suffering the alcoholic solution to evaporate in the open air, the brucine may be obtained crystallized; if it be evaporated with the aid of heat, the brucine will be obtained fused, but not less pure.

Description.—Brucine has a very intensely bitter taste; it is but slightly soluble in water, although more so than strychnine. When it is procured regularly crystallized, it presents itself under the form of oblique prisms, with parallelogramical bases. It dissolves at a temperature nearly equal to that of boiling water, and on cooling concretes like wax. It unites with acids, forming with them neutral salts, the majority of which are capable of being regularly crystallized. When placed in contact with concentrated nitric acid, it acquires a most intensely crimson color, which, when the substance is warmed, changes to yellow. If in this state a solution of the protohydrochlorate of tin be poured upon it, a most beautiful violet-colored precipitate is formed. This property appertains solely to brucine.

Properties.—The action of brucine on the animal economy is similar to that produced by strychnine, but it is less energetic. Its intensity has appeared, in some experiments, to be to that of pure strychnine as 1 to 12. Brucine might, then, be substituted for strychnine, and it would have the advantage of producing similar effects without being attended by the inconvenience of being so very powerful.

Employment.—Brucine, like strychnine, may be administered in pills or tincture, gradually increasing the dose. For medical use, the brucine extracted from the bark of the false angustura should be adopted; that which is obtained from the nux vomica is too apt to remain mixed with a certain quantity of strychnine, which increases its activity and prevents us from calculating its effects.

As brucine possesses the properties of strychnine, but in a weak degree, it may be administered in the dose of one, two, and even three grains (gr. 0·82, 1·64, or 2·46 Troy), without fear or accident, under the same circumstances in which the preparations of nux vomica are indicated. It is even probable that the dose might be carried much higher, but it is better to use the remedy with a wise caution.

DIGITALINE.

THIS substance is prepared from the foxglove (*Digitalis purpurea*), No. 237.

Preparation.—Take any quantity of dry digitalis, reduce it to coarse powder, and form it into a paste with spirit of the density ·860; separate the tincture by strong pressure, and repeat the operation a second time. Distil the alcoholic liquor, and treat the residue with water acidulated with acetic acid; filter and add to the clear liquor a concentrated iufusion of nutgalls as long as any precipitate is formed. Collect this precipitate carefully, and triturate it with an equal weight of finely-powdered litharge, adding a few drops of spirit. Digest for a short time with rectified spirit (density ·840), at a temperature not exceeding 104° Fahr. Filter, distil off the spirit, and agitate the residue with warm sulphuric ether, when the digitaline will be left as an insoluble residuum.

Description.—Digitaline is in the form of a white powder; it has an excessively bitter taste, and is inodorous, but the smallest quantity of it produces violent sneezing. It is scarcely soluble in cold water or ether, a little more so in boiling water, but is very soluble in either strong or weak spirit. It is perfectly neutral.

Properties and Uses.—Digitaline is about a hundred times more active than digitalis, the sedative properties of which it appears to possess in a concentrated degree; a tenth of a grain having frequently reduced the pulse to forty beats in the minute in from eight to ten hours after it had been taken. The smallest over-dose of it produces nausea and obstinate vomiting, which lasts many hours.

"As to the physiological effects of digitaline," observes M. Rayer, "it may be said that doses of one forty-eighth, one twenty-fourth, and one sixteenth of a grain, are not disagreeable to take, and produce no disgust or repugnance afterward. The lowering effects on the pulse have been noticed in all patients, without exception; it was retarded from twelve to forty-eight pulsations, or, in other words, the mean amount of diminution was between one third and one fourth—the maximum one half, and the minimum one eighth. Two or several hours must elapse before these results can be noticed. The pulse, if the whole length of treatment be kept in view, reaches the maximum of retardation only after a week or two. This maximum is, then, strictly speaking, an absolute one; and the maximum which is observed daily, five or six hours after the ingestion of the drug, is a relative one. The peculiarities of the pulse, when thus lowered, are extremely variable—in most cases it is small; but it acquires nevertheless a certain amount of resistance and hardness, rarely recovering its normal fullness. It sometimes causes irregularity, and destroys it when pre-existing; in therapeutical doses it improves the qualities of the pulse, instead of injuring them; it diminishes its frequency, and regulates its action. The urine is increased in quantity about one half, sometimes much more. Its physiological effects can be thus summed up :—

"1. Digitaline, in doses of one twenty-fourth to one sixteenth of a grain, renders the circulation slower, and increases the secretion of urine.

"2. Doses of one twelfth to one eighth of a grain may seriously disturb the nervous centres and the digestive organs.

"3. Beyond one eighth of a grain intolerance always sets in, and death might ensue if this limit were overstepped, or if the attempt were pursued too long."

GRANULES OF DIGITALINE.

Take Digitaline, 20 grains;
    Powdered white Sugar, 1 ounce;
    Mucilage, sufficient to make 1,000 granules.

Each granule contains a fiftieth of a grain of digitaline. The dose is from four to five.

EMETINE.

(Emetina.)

Emetine is prepared by dissolving one part of an alcoholic extract of *Cephaelis ipecacuanha* (No. 41). It is also found in the *Viola odorata* (No. 67), which has been called emetine of the violet, and Violine.

Preparation.—Emetine is prepared by dissolving one part of an alcoholic extract of ipecacuanha in ten parts of water, filtering to remove the fatty matter, and adding one part of calcined magnesia; evaporating with a gentle heat to dryness, pulverizing, washing with cold water, drying and pulverizing again; exhausting the powder with boiling alcohol, distilling off the spirit, treating the dry residue with weak sulphuric acid and animal charcoal; and finally precipitating the emetine with ammonia.

Description.—Emetine, as commonly met with, is a dark, pasty-looking substance, but when pure is white and pulverulent, inodorous, with a faint bitter taste, alkaline, very soluble in alcohol, sparingly soluble in water, and less so in ether.

Employment.—Emetine has been very little used in medicine; the only advantages which it possesses over ipecacuanha are, the smallness of the dose required to produce vomiting, and its freedom from the unpleasant odor and taste of that substance: these are, however, more than counterbalanced by the dangerous symptoms which would result from an over-dose.

GENTIANINE.

(Gentianina.)

THE discovery of this alkali was attended by a circumstance so curious as to deserve to be related. M. Henry and M. Caventon were both occupied in analyzing gentian at the same time, without being aware of the coincidence. Their results were so nearly identical, that it seemed as if they had acted in concert: they therefore agreed to publish them conjointly. It is prepared from the gentian *(Gentiana lutea)*, No. 82.

Preparation.—Digest powdered gentian in cold ether. A greenish-yellow tincture is obtained at the end of forty-eight hours. If this tincture be filtrated, and the liquor sufficiently concentrated by exposure to heat in an open vessel, it forms on cooling a yellow crystalline mass, which possesses strongly the taste and odor of gentian. Digest this mass in alcohol until it ceases to give a lemon-color. Add the washings together, and expose them to a slight heat; the yellow crystalline mass reappears, which toward the end of the evaporation becomes solid. This mass is very bitter. Redigest in weak alcohol, and all will be redissolved, except a certain quantity of oily matter. This last alcoholic solution, besides the bitter principle of the gentian, contains its odorous matter, and also an acid substance.

By evaporating this liquor to dryness, dissolving the matter in water, adding a little well-washed calcined magnesia to it, and by boiling and evaporation in a water-bath, nearly all the odorous matter of the gentian may be driven off. The bitter acid is also taken up by the magnesia, and the yellow bitter principle remains partly free, and partly combined with the magnesia, to which it gives a fine yellow color. The greater part of the bitter principle may then be obtained pure and isolated by boiling the magnesia in ether, and evaporating the solution. If it be desirable to separate still more of the bitter principle which the ether has failed to take from the magnesia, it may be done by digestion in enough oxalic acid to make the liquor acidulous. The acid unites with the magnesia, and the bitter principle, which is left free, may be obtained by the means indicated above.

Description.—Gentianine is of a yellow color, inodorous, and possesses very strongly the aromatic bitterness of gentian—more decidedly so, however, when it is dissolved in an acid. It is very soluble in ether and in alcohol, and may be separated from them by spontaneous evaporation in the form of very small, yellow, needle-like crystals. It is much less soluble in cold water, which it renders, very bitter. Boiling water has more action on it.

Properties.—It would seem, from some trials made by Magendie, that gentianine has no poisonous quality. Several grains thrown into the veins produced no apparent effect. He himself swallowed two grains dissolved in alcohol; and the only inconvenience experienced was an extreme bitterness, and a slight sensation of heat in the stomach.

Employment.—The tincture is probably the best method of administration:—

TINCTURE.

Take Alcohol (of specific gravity ·903), 1 ounce;
Gentianine, 5 grains.—Mix.

This tincture may be used for the elixir of gentian, and in similar circumstances.

SIRUP.

Take Sirup of Sugar, 1 pound;
Gentianine, 16 grains.—Mix.

This sirup is one of the best bitters that can be prescribed in scrofulous affections.

IODINE.

(*Iodinum.*)

Iodine is a simple body, discovered in 1813 by M. Courtois, in the mother-waters of soda, as it is obtained from sea-weed (*Fucus vesiculosus*), No. 349. The name *iodine* is derived from a Greek word, on account of the blue color of its vapor.

Description.—Iodine is solid at the ordinary temperature, in the form of small grayish crystals, which have but a feeble tenacity, and the aspect of plumbago. It fuses at 338° Fahr., and volatilizes at 347°, forming a very beautiful violet-colored vapor. This vapor, when enclosed in a receiver, recondenses into crystalline scales. Iodine is soluble in ether and in spirit of wine, the former taking up more or less according to its degree of rectification.

Preparation.—It is procured by the manufacturers on the large scale from the ashes obtained by burning various species of sea-weed. These ashes, technically called *kelp*, are lixiviated with water, to which they yield about half their weight of salts. The mother-liquor is poured off from these salts which are deposited by evaporation and crystallization; it is then treated with sulphuric acid, and as soon as all effervescence has ceased, in about a day or two, it is put into leaden retorts with black oxyde of manganese, and heated to 140° Fahr., when the iodine passes over in the state of vapor, and is condensed in proper receivers.

Properties and Uses.—Iodine is a most valuable remedial agent in the treatment of glandular enlargements, and in scrofulous affections; but its employment is contra-indicated when acute inflammation is present. In *bronchocele* it has proved more successful than any other remedy which has ever been used; indeed, there are few cases, unless where the thyroid gland has become completely indurated, which will withstand the use of iodine when continued steadily for six weeks or two months; and even cases where the gland is much indurated, are often remarkably relieved. In the innumerable varieties of scrofulous affections, this remedy is most extensively used and with decided advantage. It is found particularly beneficial in glandular swellings, tumors, abscesses, ulcers, ophthalmia, and diseases of the bones occurring in scrofulous constitutions. Iodine has also proved eminently successful in chronic enlargements of the abdominal viscera, particularly the liver, spleen, and ovaries. In fine, it has been proposed as a remedy in phthisis, in amenorrhœa, in leucorrhœa, in gout, in palsy, in chorea, in ascites, in chronic cutaneous diseases, &c.; but in all these cases its success is very equivocal. Topically, iodine is employed in the form of tincture or of ointment as a local stimulant in many forms of chronic cutaneous diseases, to enlarged glands, in chronic swellings of the joints, to inflamed bursæ, to buboes, over large chronic abscesses, &c.

Employment.—Iodine is not administered in substance. The following are the simple preparations which are generally employed:—

TINCTURE.

Take Iodine, 2 scruples
Rectified Spirit, 1 ounce.

Dissolve the iodine in the spirit with the aid of a gentle heat and agitation; keep the tincture in well-closed bottles. One fluid dram contains five grains of iodine. Dose, from five to twenty drops two or three times a day; it may be given in half a fluid ounce of water and sweetened with simple sirup.

OINTMENT.

Take Iodine, 1 scruple;
Prepared Lard, 1 ounce.

Triturate together so as to make an ointment. The simple iodine-ointment is seldom used in the present day.

Dr. James Whitmire, of Illinois, has assured the medical profession that iodine is an antidote to the venom of the rattlesnake and other reptiles. He says: "My opinion as to the antidotal property of iodine has been confirmed by many cases in which I used the tincture alone, with the effect of putting an entire stop to the swelling and pain in from twelve to sixteen hours. I have used it in bites of the rattlesnake, viper, and copperhead, on both man and beast, with complete success. My manner of using it is to paint the part that is bitten, and as far as the swelling extends, with three or four coats of tincture (pharmaceutical strength) twice daily; and should the swelling extend, which it almost always does after the first application, if made any time soon after the infliction of the wound, I follow it up with the paint. By the time the third application is made, the tumefaction will cease to extend, and three or four more applications will generally restore the limb or part affected to its natural state, save perhaps an obtuse sensibility to the touch, owing to the cuticle being destroyed, and some soreness of the muscles, which will remain for a longer or shorter period."

Dr. Whitmire details his first case in these words: "..... In about two hours from the time the boy was bitten, I saw him. He had received the wound about midway between the internal malleolus and the inferior portion of the os calcis, and the swelling had already extended to within three inches of the knee. There was severe pain in the part, nausea, and occasional vomiting. I proceeded to paint the foot and leg as high as the knee with four coats of the tincture of iodine, and directed four more coats to begin at bedtime, and repeated in the morning. If the swelling extended above the knee, it was to be followed up with the paint. I then gave my patient a dose of Hoffman's anodyne, and a pretty active dose of Epsom salts, with directions to leave the leg uncovered the whole time, and took my leave. The next day the boy came to town on horseback to see me. The swelling had ceased to extend about twelve o'clock in the night, and at this time had decreased very considerably. In three or four days he experienced no inconvenience from the bite, and went about his ordinary occupation.

"Since that time I have had numerous cases of the same kind, all of which have terminated equally well under the same treatment. It is my opinion, therefore, that the iodine, being absorbed, comes in contact with the virus and neutralizes it, at the same time giving tone to the engorged capillaries of the part, enabling them to empty themselves of their engorgement; and, if the wound has been inflicted so long, that there is effused serum in the cellular tissue, from debility of the vessels, the tincture of iodine is none the less applicable, as it will speedily promote its absorption."

Adulterations.—Iodine is frequently adulterated with fixed substances, such as charcoal, plumbago, black oxyde of manganese, &c., all of which may be readily detected by their not being sublimed on the application of heat, or by their being left as an insoluble residue when iodine is treated with alcohol. Attention has also been directed by Professor Christison, of England, to an adulteration of much consequence—that with water, of which it frequently contains from 15 to 20 per cent.: that is to say, one ounce of iodine may contain one and a half drams and even more of water. It may be readily detected by pressing a specimen between folds of filtering paper, or by shaking it in a very dry bottle. If greater accuracy be required, the following test may be applied: Thirty-nine grains of iodine with nine grains of quicklime, and three fluid ounces of water, when heated short of ebullition, slowly form a perfect solution, which is yellowish or brownish if the iodine be pure, but colorless if there be above two per cent. of water or other impurity.

JALAPINE.

(Jalapina.)

In the jalap *(Ipomea jalapa)*, No. 51, has been discovered a vegeto-alkaline principle, to which has been given the above name, and which appears to contain the active properties of the root.

Preparation.—Coarsely-powdered jalap is macerated for twelve or fourteen days in strong acetic acid: a highly-colored tincture is thus obtained, which, when filtered, is supersaturated with ammonia, and the mixture violently shaken; a sabulous deposite rapidly falls, and a few crystals form on the sides of the vessel. The deposite and crystals are collected and washed with distilled water, again dissolved in a small quantity of concentrated acetic acid, and reprecipitated by ammonia added in excess, which throws down the jalapine in small, white, acicular crystals.

Description.—Jalapine is without any perceptible smell or taste, and seems to be heavier than morphine, quinine, or other substances of this class. It is scarcely soluble in cold water, and only to a small extent in hot; ether has no effect upon it. Alcohol is its proper solvent. Very little trouble is requisite to purify jalapine from extractive or coloring matter, for which it appears to have but a slight affinity. It is now generally considered that the resin is equivalent to this.

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RESIN OF JALAP.

(Extractum sive Resina Jalapæ.)

Preparation.—Take any convenient quantity of jalap, in moderately fine powder; mix it thoroughly with enough of rectified spirit to moisten it well; put it in twelve hours into a percolator, and exhaust the powder with rectified spirit; distil off the greater part of the spirit, and concentrate the residuum over the vapor-bath to a due consistency.

The above is the Edinburgh process, which yields the resin of jalap in an impure state. It may be obtained pure by pouring boiling water on the roots, macerating for a day, then cutting them into very thin slices, boiling them three times successively for about ten minutes in water, expressing after each decoction; afterward boiling them as often and as long in alcohol, and in like manner expressing; finally, mixing the tinctures, treating the liquor with animal charcoal, filtering, and evaporating. Another mode is, to introduce into a displacement instrument, first one part of finely-powdered animal charcoal, and afterward two parts mixed with an equal quantity of powdered jalap; then to pour on alcohol until the liquid which passes equals the jalap; and finally to add to the tincture thus obtained twice its volume of water, so as to precipitate the resin, which is to be washed and dried.

Description.—The pure resin of jalap is as white as starch, and in doses of from three to five grains is found to purge actively. The resin of the shops is seldom pure, but is of a dark color, brittle, and of a shining fracture. For practical purposes, however, if unadulterated, it is sufficiently pure.

Employment.—It is believed that the resin of jalap is its sole purgative principle. It is advised that it should be triturated with loaf-sugar, sulphate of potassa, almond emulsion, or other substance calculated to separate its particles. The dose is from four to twelve grains.

Adulterations.—Jalap-root is sometimes adulterated by the mixture of white bryony root, but the white color and intense bitterness of the spurious root render the fraud easy of detection. In continental Europe many forms of spurious or counterfeit jalaps are met with mixed with the true root; they may, for the most part, be distinguished by being very rugose, of a reddish or rose color internally, not compact, with a faint odor, and almost insipid. The purity of jalap-*resin* may be readily ascertained by its action with sulphuric acid, as the beautiful crimson color above described is not manifested if any other resin be present.

LEPTANDRINE.

We are indebted to Dr. William S. Merrell, of Cincinnati, for the introtion of this valuable resin into our materia medica. It is produced from Culver's root *(Leptandria virginica)*, No. 6.

Properties and Uses.—Leptandrine is entitled to a high rank as a cholagogue, and as a remedy in dysentery, obstinate chronic diarrhœa, &c. Dr. Chase, of Cincinnati, says of it: "This medicine will be found to be of great convenience to the practitioner, from its homœopathic dimensions, and is destined to take a high stand among the already numerous articles of our indigenous materia medica...... From the previous success attending the use of the *Leptandria virginica* in the case of hepatic torpor and morbid dysenteric discharges, I was inclined to believe that we should find the leptandrine to be a valuable adjuvant in the treatment of those morbid states of the stomach and liver. Consequently, I sought the first opportunity of testing the merits of this new compound. I selected some eight or ten well-marked cases of the above-mentioned disease, and administered the leptandrine in the following manner, which I find to be the best mode of using it, being insoluble in water. I submitted the *resin* to the action of a sufficient amount of alcoholic spirits to moisten it, and waiting until it had evaporated, I then triturated it with pulverized white sugar, until the whole became an impalpable powder. I usually gave to an adult from two to three grains of the leptandrine as above stated in those cases of obstinate chronic diarrhœa which had resisted the mercurial treatment of the allopathic practice; and I am happy to state that in most of the cases in which I have tried it, it has produced the most happy results, and confirms me in the opinion that the leptandrine will not only add another valuable article to our vegetable materia medica, but will be found to be a safe and valuable substitute for the heretofore idolized compounds of mercury."

LUPULINE.

The existence of this substance in the hop (*Humulus lupulus*), No. 329, was remarked by Dr. Ives, of this city, but had been previously described by M. Planche, of Paris, under the name of *Matière jaune du houblon.*

Description.—It presents itself under the form of small, shining, yellowish grains, which cover the base of the scales of the hop. It is of a golden color, pulverulent, and of an aromatic odor.

Properties.—When submitted to analysis, it is found to be chiefly composed of resin, volatile oil in small quantity, and a bitter principle. It is to this latter principle that the name of LUPULINE ought, it would seem, to be reserved. It has a very bitter taste, and is soluble in water, alcohol, and ether, to which it communicates its bitterness. Dr. Ives esteemed it at once aromatic, tonic, and narcotic. Dr. Page, of Philadelphia, found it useful in controlling the painful erections occurring in venereal cases, and considers it a better and more effectual remedy than any other tried. He gives it in the dose of from five to ten grains, and has never known an instance in which the second dose did not succeed in subduing the painful erections so troublesome in cases of gonorrhœa. It does not cause the headache, constipation, and other unpleasant effects consequent upon the use of camphor and opium. He has found the remedy useful also in cases of involuntary seminal emissions. It will not cure the disease, but prevents the discharges so long as the patient remains under its influence. Dr. Edward Hartshorne has also employed it successfully in one case to destroy venereal appetite in a man addicted to onanism.

POWDER.

Take Lupuline, 1 part;
White Sugar, powdered, 2 parts.

First powder the lupuline in a porcelain mortar, and afterward add by degrees the sugar. Mix them accurately.

PILLS.

Bruise the preceding preparation strongly, and divide into pills.

This substance becomes converted into a ductile mass, which renders it unnecessary to add any excipient.

TINCTURE.

Take bruised Lupuline, 1 ounce;
Alcohol (sp. gr. ·837) 2 ounces.

Digest for six days in a close vessel; strain, press strongly, filter, and add a quantity of alcohol (of sp. gr. ·837), so as to make three ounces of tincture.

Dr. Nicholas Mill, of England, affirms that from forty to sixty drops of the saturated tincture of lupuline act as an anodyne, and have a powerful effect in allaying great nervous irritation, while that stupidity which often accompanies the use of opium is never induced by this medicine.

SIRUP.

Take Alcoholic Tincture of Lupuline, 1 part;
Simple Sirup, 7 parts.

MAOROTINE.

"IN the early part of the year 1848," says Dr. Merrell, the ingenious chemist alluded to in a preceding article, "I submitted a portion of the root of the black cohosh *(Macrotys racemosa)* [No. 189] to the same process as that pursued in obtaining the podophylline, and readily procured from it a similar resinous principle. This, from analogy, I have named MACROTINE. Several physicians have used it for some months past, and, like the podophylline, it bids fair to become an important medicine in those peculiar diseases to which the *Macrotys* is so especially adapted. The mode of its preparation, and all its mechanical and general chemical characteristics, are very nearly the same as those of the podophylline" (to which article the reader is referred). "I have also obtained," continues Dr. Merrell, "similar resins from the *Leptandria virginica* (LEPTANDRINE), and from the *Iris versicolor* (IRIDIN), but the medical virtues of these have not yet been satisfactorily tested."

Dr. Morrow, of Cincinnati, says of this article: "I have used the macrotine very extensively in the treatment of a numerous class of female diseases, for the successful treatment of which I had for many years previous been in the habit of depending mainly on the *Macrotys racemosa*, in the form of either infusion, decoction, or tincture. My confidence in the value of the *Macrotys racemosa*, I am free to confess, has been such as to induce me to use perhaps a larger quantity of this medicine, for the last sixteen years, than any practitioner in the United States—giving it a more extended range of application in the treatment of disease, and relying with more confidence on its ultimate efficiency, than any of my medical friends. My experience in the use of this article during the period named has been mostly confined to cases of leucorrhœa, menorrhagia, prolapsus uteri, threatened miscarriage, dysmenorrhœa, and barrenness or sterility, in all of which cases I have obtained the most satisfactory results from the *Cimicifuga*, or *Macrotys*; but deeming the macrotine a more convenient form of the medicine for practical use, and believing it to contain the virtues of the article from which it is obtained, I have accordingly used it in similar cases, with results thus far which justify the conclusion that it will be found a satisfactory substitute.

"My experience in the use of the macrotine has demonstrated to my mind that there is a slight difference in the *modus operandi* of this form of the medicine when compared with the usual forms in which the *Macrotys racemosa* has been used. That difference principally consists in the increased liability of the latter to produce a heavy, dull, and aching sensation in the forehead, in connexion with a feeling of dizziness, while the former appears to manifest a greater tendency to produce aching and somewhat painful sensations in the joints and limbs generally. I have usually given the macrotine in the form of pills, prepared by adding a small quantity of pulverized Castile soap, enough to make the mass properly adhesive, and forming into pills of the ordinary size, and giving one every three hours during the day, in all the various cases above mentioned, whenever they have come under my care since I commenced its use. In nearly all these cases it has proved singularly beneficial, thus affording the gratifying evidence that it will soon become one of the most popular and valuable articles of the materia medica."

MORPHINE.

(Morphia.)

This is a peculiar principle obtained from opium, the product of the *Papaver somniferum* (No. 192), to which we refer for its description.

Preparation.—M. Robiquet's process of obtaining this article is as follows: "Three hundred parts of pure opium are to be macerated, during five days, in one thousand parts of common water. To the filtered solution fifteen parts of perfectly pure magnesia (carefully avoiding the carbonate) are to be added. Boil this mixture for ten minutes, and separate the sediment by a filter, washing it with cold water till the water passes off clear; after which, treat it alternately with hot and cold alcohol 12–22° Baumé (or s. g. 923), as long as the menstruum takes up any coloring matter. The residue is then to be treated with boiling alcohol of 22–32° Baumé (or s. g. 868), for a few minutes. The solution, on cooling, will deposite crystals of morphia."

Mr. Thomson obtained from good Turkey opium nearly three times the quantity of morphine yielded by the same weight of East India opium. That from the latter was also more colored, and in smaller crystals. This fact sufficiently accounts for the superiority of the opium from Turkey.

Properties and Uses.—Morphia, on account of its insolubility, is seldom used in medicine; its therapeutical effects, therefore, will be more conveniently considered when treating of the muriate of morphia, the most frequently employed of its salts. The dose of the pure alkaloid would be from one fourth to one half of a grain in the form of pill.

ACETATE OF MORPHINE.

(Morphiæ Acetas.)

Description.—This salt is formed by combining directly, in an evaporating dish, acetic acid and morphine, and letting the mixture slowly evaporate to dryness. The difficulty of obtaining it crystallized, on account of its extreme deliquescence, renders it necessary to adopt this mode of preparation. As usually met with, acetate of morphia is a grayish-white powder, sometimes obscurely crystalline; when pure, however, it is snow-white and in distinct crystals. It is inodorous, but when moistened emits a feeble odor of acetic acid; its taste is intensely bitter.

Properties and Uses.—The uses and dose of this preparation are precisely similar to those of the muriate to be next described; the latter salt should be always preferred, as it is more easily prepared, keeps better, and is generally more pure. The following are formulas in general use:—

ANODYNE DROPS.

Take Acetate of Morphine, 16 grains;
Distilled Water, 1 ounce;
Acetic Acid, 3 or 4 drops;
Alcohol, 1 fluid dram, to keep the salt in solution.

These drops are a good substitute for liquid laudanum, Rousseau's drops, tincture of opium, &c. The dose is from six to twenty-four drops. The sulphate of morphine may be used instead of the acetate, if it be thought proper. As, however, the above drops are apt to allow of the morphine being deposited when kept for a short time, the present formula had better be substituted:—

SOLUTION.

Take Acetate of Morphine, 16 grains;
Distilled Water, 6 drams;
Dilute Acetic Acid (p. l.), 2 drams.

Besides these forms of prescription, the acetate and sulphate of morphine may be given in pills, in electuary, in draughts, or in mixtures; the dose being from one fourth of a grain to a grain in the twenty-four hours.

Adulterations.—The following test, which indicates the exact quantity of morphia that ought to be present, guards against the adulteration with any other white powder: one hundred measures of a solution of ten grains in half a fluid ounce of water, and five drops of acetic acid, heated near to 212°, and decomposed by a faint excess of ammonia, yield by agitation a precipitate which in twenty-four hours occupies 15·5 measures of the liquid.

Incompatibles.—The stronger acids; the alkalies, and alkaline earths; most earthy and metallic salts; and astringent vegetable infusions and decoctions.

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MURIATE OF MORPHINE.

Morphiæ Murias.)

Description.—Muriate of morphia is usually met with in the form of a fine soft, snow-white powder, but it may be readily obtained in feathery, acicular crystals. It is without odor, but has an intensely bitter, peculiar taste.

Properties and Uses.—The dose of the muriate or acetate of morphia is from one fourth to one half a grain; after they have been employed for any length of time, so large a dose as from eight to ten grains will be required to act as a narcotic. When applied endermically, the cuticle is to be removed by means of a blister, and from one to two grains sprinkled over the denuded skin. The salts of morphia may be also introduced into the system by inoculation with a lancet dipped in their aqueous solution; the punctures may be made on the anterior part of the forearm, and the fourth of a grain thus introduced will be generally found to produce sleep.

The approved preparations are the following:—

SOLUTION.

Take Muriate of Morphia, half a dram;
Rectified Spirit, 5 fluid ounces;
Distilled Water, 15 fluid ounces.

Mix the spirit and the water, and dissolve the muriate of morphia in the mixture with the aid of a gentle heat. The strength of this preparation is intended to be equivalent to tincture of opium: one fluid ounce contains four and a half grains of muriate of morphia. Dose, from twenty to forty drops.

LOZENGES.

Take Muriate of Morphia, 1 scruple;
Tincture of Tolu, half an ounce;
Pure Sugar, 25 ounces.

Dissolve the muriate of morphia in a little hot water, mix it and the tincture of tolu with the sugar, and with a sufficiency of mucilage form a proper mass for making lozenges, each of which should weigh about fifteen grains. Each lozenge contains a little more than a fortieth of a grain of muriate of morphia. Principally used to allay tickling cough in chronic pectoral affections. Dose, from ten to twelve in number daily.

Adulterations.—The test of this muriate is—snow-white; entirely soluble; solution colorless; loss of weight at 212° not above 13 per cent.; one hundred measures of a solution of ten grains in half a fluid ounce of water, heated near to 212°, and decomposed with agitation by a faint excess of ammonia, yield a precipitate which in twenty-four hours occupies 12·5 measures of the liquid.

Incompatibles.—Alkalies, and alkaline earths; most earthy and metallic salts; and astringent vegetable infusions and decoctions.

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SULPHATE OF MORPHINE.

(Morphiæ Sulphas.)

This salt very much resembles the sulphate of quinine, with which it may be confounded; but it becomes red when treated with concentrated nitric acid, which is not the case with the sulphate of quinine.

Preparation.—It may be readily prepared by mixing morphia in powder with distilled water, and carefully adding diluted sulphuric acid till the morphia is saturated and dissolved. It occurs in snow-white feathery crystals which are completely soluble in water.

Properties and Uses.—Sulphate of morphia is composed of 1 equivalent of morphia, 1 of sulphuric acid, and 6 of water of crystallization. The dose is the same as that of the muriate, over which it does not appear to possess any advantage.

The pharmacopœia of the United States gives us a useful preparation:—

SOLUTION.

Take Sulphate of Morphine, 8 grains;
Distilled Water, half a pint.

Dose, a teaspoonful (equivalent to from twelve to fourteen drops of laudanum), to be repeated as occasion may require.

PIPERINE.

In the black pepper *(Piper nigra)*, No. 17, has been discovered a neutral crystalline principle, by Professor Œrsted, of Copenhagen, which has been named Piperine.

Preparation.—Piperine may be readily prepared by Poutet's process, as follows: "Prepare an alcoholic extract of black pepper, digest in a solution of caustic potash, and agitate with water; filter, and wash carefully with water what remains on the filter; dissolve it in warm alcohol, and crystallize by cooling."

Description.—As usually met with, piperine is a dark-yellow, resinous-looking substance, but it may be obtained in transparent, colorless, four-sided prisms. It is tasteless and inodorous, is insoluble in cold water, dissolves sparingly in boiling water or cold alcohol, but is very soluble in boiling alcohol; it melts at 212° Fahr.

Employment.—According to M. Meli, piperine enjoys the same febrifuge properties as the alkalies of the cinchona. At the hospital at Ravenna he has cured several cases of fevers with it, and he even goes so far as to affirm that its action is more certain than that of the sulphate of quinine. Piperine ought to be employed in a much smaller doses than the sulphate of quinine. Intermittent fevers are the only diseases in which it has as yet been employed. It might also be used in gonorrhœa, in place of cubebs.

PODOPHYLLINE.

This resin, produced from the root of the manorake *(Podophyllum peltatum)*, No. 193, is perhaps one of the most important remedies that has been introduced to the notice of the medical profession for the last one hundred years and for which we are indebted to Dr. Merrell, of Cincinnati, who gives us the following history of it: "In the latter part of June, 1847, while making some hydro-alcoholic extract of podophyllum, on setting aside the liquid after the alcohol had been evaporated off, I observed that a resinous substance had precipitated, which, from the analogy of its formation to the resin of jalap, I immediately inferred bore a similar relation to the *Podophyllum* that that substance does to the jalap, and that it would be found to be in a great measure the active principle of the root from which it was obtained. On referring to the article on *Podophyllum* in the U. S. Dispensatory, I found recorded the experiments of William Hodgson, jr., by which a similar substance had been obtained by solution in quicklime and precipitation by sulphate of zinc.

"I immediately proceeded to test the virtue of the article I had obtained, and was not disappointed in my anticipations. About two grains of the partially purified resin were taken by a healthy young man then in my employ. For about six hours it produced no sensible disturbance; he then complained of feeling sick, and lay down. Two hours afterward, on being aroused from sleep, he purged and vomited profusely. It operated freely by purging once or twice afterward. The next morning he felt perfectly well, and on inquiry stated that it produced no spasm or griping, but operated in all respects like 'a tremendous big dose of calomel.' A few days afterward, my own bowels being constipated, I took at night a single grain, carefully weighed and made into a pill with an equal quantity of Castile soap, which produced a free evacuation the next morning. After these trials I ventured to recommend it to the attention of the profession, whose testimony has been uniformly and decidedly in its favor.

"The experiments of Mr. Hodgson were the only ones, so far as I know, that had then been published. His process may do well for scientific analysis, but for practical use is unnecessarily troublesome and wasteful, even if it do not (as the experiments of Mr. Lewis, confirmed by my own, seem to show) wholly destroy the medical virtues of the product.

"In the third number of the thirteenth volume of the 'American Journal of Pharmacy,' August, 1847, is published the 'Observations on Podophyllum,' by John R. Lewis, containing an account of an interesting series of experiments on that article. These experiments were probably made previous to my own, but were not published till after I had obtained the podophylline and introduced it to the notice of the profession. The results of Mr. Lewis's analysis are in general similar to my own, and in some respects fuller than any I have yet made. His most eligible mode of obtaining the resinous principle was briefly as follows:—

"'A quantity of the coarsely-powdered root was boiled a few minutes in dilute alcohol, and when cold was displaced. The reddish-brown liquor was evaporated to dryness; the dry extract reduced to powder, treated with alcohol of 42° Baumé; the solution boiled with purified animal charcoal, filtered, and evaporated. The residue, which had the appearance of a light-brown resin, was redissolved in alcohol of 42° Baumé, and precipitated by water, which operation left a large portion of coloring matter in solution. The precipitate was separated, washed with distilled water, dissolved again in alcohol, and left to evaporate. In this state it had but little color, and was in form analogous to tannin.'

"My process for obtaining the podophylline is the same in principle as the above; but as I now make it in larger quantities, I use the vapor-displacement apparatus patented by Mr. C. A. Smith, for exhausting the roots, and otherwise modify the process as science and experience have suggested. The article can not be profitably prepared in small quantities by the physician, nor without considerable expense of apparatus."

Properties and Uses.—"The podophylline, when pure," continues Dr. Merrell, "is quite insoluble in cold water, nor is it acted on by dilute nitric acid, or very dilute alkalies. It is not therefore an acid, like tannin, nor an alkaloid, nor a salifiable base, like quinia, but a neutral proximate vegetable principle, of a resinous character. It is insoluble in oil of turpentine, but readily soluble in alcohol and ether. In all respects, its chemical characteristics are similar to those of the resin of jalap, and, like it, on account of its insolubility in aqueous fluids, it is very important in administering it that it be finely powdered or triturated with sugar, sirup, or some soluble extract, so that its particles may be readily and intimately diffused in the stomach, otherwise there is danger of its producing irritation and pain in consequence of its local or chemical action on the primæ viæ."

Dr. Morrow, of Cincinnati, in an excellent essay on this article, which I can not do better than extract from, says: "To prepare it properly for use, it should be finely pulverized, and given in doses of from one and a half to three grains to an adult, mixed in a little simple sirup or sweetened water—say in one half a tablespoonful, or about two teaspoonfuls. In doses of this size it will operate with great efficiency and certainty as a purgative, in from four to eight hours producing several pretty copious and moderately consistent discharges, which are very frequently charged to a considerable extent with bile. In some instances a longer period will elapse before its operation will commence, and in nearly every case it leaves the bowels in a gently lax condition, perhaps for two or three days after its operation is over. It operates with much energy and efficiency, without harshness, seldom producing griping; but it occasionally produces nausea, and in full doses may cause vomiting, but in small doses seldom produces these effects. Some practitioners say it will operate quite satisfactorily as a purgative in doses of one grain. This is one of the cathartics which, during its operation, seems to exercise a powerfully controlling influence over the condition of the cutaneous tissue, as well as the action of the heart and arteries, producing in many instances a moderately copious perspiration, which often continues, to a greater or less extent, during the whole period of its operation. This is more especially true when it causes nausea and vomiting.

But when these effects do take place, the patients never experience that deathlike and powerfully depressing sickness which not unfrequently results from the operation of the powdered root.....

"In the treatment of the various kinds of intermittent, remittent, and continued forms of fever, I have had frequent opportunities to test its value. With one single dose of from two to three grains of this medicine, I have very frequently arrested the progress of a severe attack of bilious remitting fever, requiring nothing further to complete the cure, except some gentle tonic and restorative medicine, and a proper avoidance of the exciting causes.

"The same remarks apply to the intermitting forms of fever, as well as to some of the continued. In every variety of case which is characterized by much hepatic torpor and congestion of the portal circle, it has manifested a superior controlling power, appearing to arouse the torpid energies of the liver, and restoring very promptly its lost functions.

"But in no class of cases has this medicine manifested a higher degree of value than in those marked by strong determination of blood to the brain, producing either congestion or incipient inflammation of that organ. In several cases of this description I was agreeably surprised to find every trace of congestion eradicated by one or two thorough operations of this article. It seemed to exercise a more completely controlling influence over this pathological condition than any medicine I have ever known used for the same purpose. Of course, in these cases it was used in moderately full doses, and its operation continued for a considerable length of time.

"In cases of purpureal fever, in their incipient stage, it has manifested itself as a medicine of superior value, arresting them at once when administered in full doses, and even as a common purgative dose after confinement no agent has exercised a happier influence..... In a case of dropsy of the serous cavities as well as cellular texture of the whole body, the podophylline was administered in doses of one half a grain, in conjunction with half a teaspoonful of cream of tartar, every two hours, until it produced half a dozen or more copious watery discharges from the bowels, and repeated in two or three days afterward till the same effects took place, it soon relieved the patient completely of the dropsical effusion! From its effects in this case, I should be led to entertain a favorable opinion of its powers in all cases of dropsy.

"I have used the podophylline in numerous cases of cholera-infantum, and other attacks of summer-complaint in children, with very satisfactory results. In these cases, however, it was given in very small doses. To a child three years old, it was given in doses of from one eighth to one fourth of a grain once in six or eight hours for thirty-six or forty-eight hours, and it scarcely ever failed to afford decided advantage, more especially in those cases in which there was frequent hepatic torpor, in connexion with a determination of blood to the head.....

"As an alterative, it has demonstrated its value beyond all doubt, in numerous cases in which it has been used during the past summer and fall [1848], especially in that class of cases in the treatment of which the routine practitioners of the 'orthodox school' regard the mercurial preparations as of indispensable importance. Indeed, it promises to be more than a substitute for the mercurials in all those cases in which these medicines have proved of any substantial value, without their liability to produce injurious effects on the constitution of the patients."

PRUSSIC ACID.

(Acidum Hydrocyanicum.)

SCHEELE discovered the prussic acid in 1780, but he only obtained it mixed with a varied proportion of water. M. Gay-Lussac first procured it in a state of purity.

Preparation.—Several formulas are given in the different pharmacopœias. DUBLIN: "Cyanuret of mercury, one ounce; muriatic acid, seven fluid drams; water, eight fluid ounces: from a glass retort distil into a refrigerated receiver eight fluid ounces; preserve in a well-closed bottle, in a cool, dark place. The specific gravity of this acid is to that of distilled water as 998 to 1,000."

LONDON [U. S.]—"Ferrocyanide of potassium, two ounces; sulphuric acid, one and a half ounces; distilled water, one and a half pounds [a sufficient quantity, U. S.]: mix the acid with four fluid ounces of the water, and to these, when cooled and put into a glass retort, add the ferrocyanide of potassium, first dissolved in half a pound [ten fluid ounces, U. S.] of water; pour eight fluid ounces of the water into a cooled receiver, then the retort being fitted on, let six fluid ounces of acid pass into this water, distilled with a gentle heat in a sand-bath. Lastly, add six fluid ounces [five fluid ounces, U. S.] more of distilled water, or as much as may be sufficient, that 12·7 grains of nitrate of silver dissolved in distilled water may be accurately saturated by 100 grains of this acid. Diluted hydrocyanic acid may also be prepared, when it is more immediately wanted, from forty-eight and a half grains [fifty and a half grains, U. S.] of cyanide of silver, added to one fluid ounce of distilled water, mixed with thirty-nine and a half grains [forty-one grains, U. S.] of hydrochloric acid. Shake all these in a well-stopped vial, and after a short interval pour off the clear liquor into another vessel. Keep this for use, the access of light being prevented."

EDINBURGH.—"Ferrocyanide of potassium, three ounces; sulphuric acid, two fluid ounces; water, sixteen fluid ounces: dissolve the salt in eleven fluid ounces of the water, and put the solution into a mattress with a little sand; add the acid previously diluted with five fluid ounces of the water and cooled; connect the mattress with a refrigeratory; distil with a gentle heat, by means of a sand-bath or naked gas-flame, till fourteen fluid ounces pass over, or till the residuum begins to froth up; dilute the product with distilled water till it measures sixteen fluid ounces."

Description.—Medicinal hydrocyanic acid is a colorless liquid, with a peculiar penetrating odor, and a bitter taste, leaving a warm sensation on the tongue and palate. The odor is generally stated to resemble that of the volatile oil or distilled water of bitter almonds, but it is decidedly different, and should not be confounded with it. The specific gravity varies with the quantity of real or anhydrous acid contained in it.

Properties.—The medicinal acid is a mixture of anhydrous hydrocyanic acid and water. Prepared according to the directions of the Dublin college it contains, according to Barker's observations, 1·6 per cent. of real acid; but, according to Mr. Donovan, 2·82 per cent. The London preparation contains 2 per cent., and the Edinburgh 3·3 per cent. Anhydrous hydrocyanic acid is composed of 1 equivalent of cyanogen and 1 of hydrogen. The quantity of pure acid contained in the medicinal preparation may be readily ascertained by accurately weighing a portion of it, amounting to about 100 grains, adding to this portion nitrate of silver in excess, collecting the white insoluble precipitate of cyanide of silver which falls on a weighed filter, drying and weighing together precipitate and filter; five parts of the precipitate correspond to one part of pure acid. Hydrocyanic acid reddens litmus-paper feebly, and the red tint disappears by heat; it is very volatile, and soon decomposes by keeping, a black precipitate being formed in it. For medicinal purposes the dilute acid may be kept for a long time unchanged by the addition of a few drops of sulphuric acid. The best test for the presence of this acid is its action on sulphate of iron: if a few drops of a solution of caustic potash be added to a fluid suspected to contain hydrocyanic acid, and then a solution of some proto- and sesqui-salt of iron, as the common sulphate or tincture of the muriate of the shops, a greenish precipitate is produced which becomes bright Prussian blue on the addition of a little sulphuric acid. Its presence is also indicated by adding a few drops of sulphuric acid to the liquid containing it, and covering the vessel with a glass plate having its lower surface moistened with a solution of nitrate of silver: owing to the volatility of the acid, the surface of the plate will be covered with the white cyanide of silver.

Employment.—The medicinal acid should be at first administered in doses of one or two drops, which should be repeated every second or third hour according to circumstances, its effects being very transitory. It is best given in distilled water, to which simple sirup may be added; it should be always prescribed in the form of draught, as when given in mixture it is apt to float on the top of the liquid, and thus a single dose may produce dangerous effects. The quantity given should be increased very gradually, and its effects carefully watched. For external use, a lotion may be prepared with two fluid drams of the acid and eight fluid ounces of distilled water.

As a remedial agent this acid has been principally used to allay irritability, to diminish pain, and to lessen spasm. Thus, it has been used with much benefit in spasmodic and painful affections of the stomach and bowels, as in *gastrodynia* and *enterodynia*, in *pyrosis*, particularly when accompanied by much pain; in chronic vomiting, and in *colica pictonum*. It has also been found very serviceable in allaying irritable or spasmodic cough in various pulmonary affections, as in simple hooping-cough unaccompanied with inflammation, in pure spasmodic asthma, in the advanced stages of phthisis, and in the spasmodic cough of nervous and hysterical females. It has been successfully employed to allay vomiting and purging in severe cases of common cholera, and to check the colliquative diarrhœa and sweating of hectic. Lastly, it has been administered as a calmative and anodyne in neuralgia, tic-doloreux, chronic rheumatism, cancerous affections, and nervous palpitations, but its success has been very equivocal. Externally, in the form of lotion, it will be found very serviceable in allaying the violent itching which attends many forms of cutaneous disease.

Adulterations.—Medicinal prussic acid, as met with in the shops, varies much in strength, is often much contaminated with impurities, and frequently is unfit for use from having been too long kept. The presence of any fixed impurity is indicated by the preparation not being entirely vaporizable by heat. The most common impurity met with is sulphuric or muriatic acid; the presence of either may be suspected if the medicinal preparation acts strongly on litmus-paper; they may be easily detected by the test first proposed by Professor Geoghegan: "Drop one or two crystals of the *hydrargyro-iodo-cyanade of potassium* into the suspected acid; should any foreign acid be present, a red precipitate will immediately be formed on them." Concentrated distilled water of bitter almonds is sometimes substituted for prussic acid: it may be detected by placing a small quantity of the suspected liquid in an open vial in a sand-bath, and holding a piece of litmus-paper over the mouth of the bottle, if it be bitter-almond water no effect will be produced on the paper, but it will be reddened by the vapor of prussic acid. When unfit for use from being kept too long, prussic acid is generally, though not always, discolored.

Incompatibles.—Nitrate of silver, red oxyde of mercury, sulphate of copper, sulphate and muriate of iron if an alkali be present, all sulphurets, and strychnia.

QUININE.

SULPHATE OF QUININE.

(Quininæ Sulphas.)

THIS is a neutral saline substance, resulting from the action of sulphuric acid upon quinia. It is found in commerce in very minute needles, of a pearly white, flexible, resembling fibrous and silky abestos, united in radiated flakes, and of an excessively bitter taste. It is obtained by repeatedly boiling the yellow Peruvian bark (*Cinchona*, No. 42) in water, acidulated with sulphuric acid.

Properties.—The sulphate of quinine possesses the tonic and principally the febrifuge properties of the bark from which it is obtained, and is exhibited in the same cases. Where, from irritability of the stomach, the bark can not be retained, the sulphate of quinine may be usefully employed. Much of this article is adulterated; some of it is mixed with arsenic, and serious effects have followed its use.

Employment.—The dose is from one to five grains three or four times a day. As an anti-periodic, it is administered in ague during the intermission, in divided doses, so regulated that from fifteen grains to two scruples, according to circumstances, may be taken in all. It may be administered in the form of pill, made with conserve of roses or mucilage, or dissolved in some aqueous vehicle with the aid of dilute sulphuric acid. It should not be prescribed, as is frequently done, in the infusion of roses, as most of it is precipitated in the form of an insoluble tannate of quina by the tannic acid contained in that preparation. It may be administered in the form of enema, where there is very great irritability of the stomach; three times the ordinary dose, or even more, may be mixed with an ordinary starch enema, and administered about an hour before the paroxysm. Or it may be introduced into the system by the endermic method, the ordinary dose being sprinkled over the surface of the skin, denuded of the epidermis by means of a blister. In intermittent headache, one grain of the disulphate, mixed with three grains of starch, has been snuffed up the nostrils occasionally.

PILLS.

Take Sulphate of Quinine, 1 ounce;
Gum-Arabic, in powder, 2 drams;
Sirup, a sufficient quantity.

Mix the sulphate of quinine and the gum, and beat them with the sirup so as to form a mass to be divided into 480 pills. Each pill contains one grain of the sulphate of quinine.

WINE.

Take Sulphate of Quinine, 24 grains;
Citric Acid, in Crystals, 15 grains.

Rub them together, and dissolve in twenty-four fluid ounces of orange-wine. This is an elegant formula. The dose is from one half to two fluid ounces.

In cases where the irritability of the stomach forbids the use of the bark, and in administration to children, we use the quinine in the following manner:

Take Sulphate of Quinine, 1 scruple;
Cayenne, 2 scruples.—Mix.

Incorporate well in a mortar; divide into twelve powders, and give one every four hours, or according to circumstances, in a little sirup. For children, the solution is preferable.

Incompatibles.—The alkalies, and their carbonates; lime-water; tartaric acid; the soluble tartrates; and all vegetable tinctures, infusions, and decoctions, containing tannin.

SOLANINE.

(*Solanina.*)

THIS alkali was discovered about the year 1824, by M. Desfosses, an apothecary at Besançon, France, in two species of the family of *Solanum*, namely, in the garden nightshade (*Solanum nigrum*), No. 61, and the bitter-sweet-herb (*Solanum dulcamara*), No. 59. It exists in both these plants; but while it is evidently contained in the leaves of the latter, those of the nightshade afford no traces of it.

Preparation.—Solanine is found most abundantly in the berries of the nightshade, where it exists in the state of a malate. In order to obtain it, digest the filtrated juice of these berries in ammonia; a grayish precipitate is formed, which, when washed on a filter and digested in boiling alcohol, gives by evaporation the salifiable base in a state of sufficient purity if perfectly ripe berries have been operated on; but if the berries have been green, the solanine is mixed with a certain quantity of chlorophylle, which can not be separated without much difficulty.

Description.—Perfectly pure solanine is in the form of a white, opaque, and sometimes pearly powder. It is inodorous; its taste is slightly bitter and nauseous, and its bitterness is developed by solution in acids, especially in acetic acid. Its salts are uncrystallizable, the solutions giving by evaporation a gummy, transparent mass, which may be easily powdered. Solanine is insoluble in cold water, and hot water only dissolves one eight-thousandth part; alcohol dissolves a small quantity.

Properties.—A very small quantity of solanine produces great irritation in the throat. It has a slightly bitter, nauseous flavor in the mouth, which is much more intense, however, if the substance be dissolved in a little acetic acid. The acetate is the only salt which has been tried on man: a quarter of a grain produces nausea, but no disposition to sleep. It appears, then, that solanine, like opium, produces vomiting and sleep; but while its emetic properties seem to be more apparent than those of opium, its narcotic ones are evidently much less powerful. It is but seldom used in medicine.

STRYCHNINE.

(*Strychnia.*)

THIS alkaloid is found in the seeds of the nux-vomica (*Strychnos*), No. 63, and several other plants.

Description.—Strychnine crystallizes in colorless minute octohedrons, but as met with in commerce it is usually in the form of a grayish-white granular powder; it is odorless, but has an intensely bitter taste. It is soluble in 2,500 parts of boiling, and in 6,667 parts of cold water; but this last solution, if still further diluted with 100 times its weight more of water, tastes strongly bitter. It dissolves in diluted alcohol, but is insoluble in absolute alcohol and in ether. It is permanent in the air; it acts as an alkali on vegetable colors, and combines with acids to form salts.

Preparation.—Magendie's method of preparation is to add a solution of liquid subacetate of lead to a solution of alcoholic extract of the nux-vomica in water, until no more precipitate be thrown down; the foreign matters being thus separated, the strychnine remains in solution with a portion of coloring matter, and sometimes an excess of acetate of lead. Separate the lead by sulphuretted hydrogen; filtrate it, and boil with magnesia, which will unite with the acetic acid, and precipitate the strychnine. Wash the precipitate in cold water; redissolve it in alcohol, to separate the excess of magnesia; and by evaporating the alcohol, the strychnine is obtained in a state of purity. If it be still not perfectly white, it must be redissolved in acetic or hydrochloric acid, and reprecipitated by means of magnesia.

Employment.—The dose of strychnine is one twelfth of a grain, gradually and slowly increased until its effects are produced; always diminishing the dose at first, when a different sample of the drug is employed. It is usually given made into pill with crumb of bread, or with conserve of roses: but as it is difficult to divide it with sufficient accuracy into pills, a preferable method is to dissolve a grain in two fluid drams of rectified spirit, with the aid of two drops of sulphuric or acetic acid, so that every ten drops of this solution will contain one twelfth of a grain of the salt of strychnine. When applied by the endermic method, half a grain of the alkaloid may be sprinkled over the surface previously denuded of its cuticle, or the above solution may be used. An obstinate case of retention of urine after parturition we are told was cured by doses of one sixteenth of a grain of strychnine three times a day. No matter how administered, great attention is requisite during the use of nux-vomica or its alkaloid, in consequence of their great activity as poisons, our ignorance of any chemical antidote, and from the fact of some individuals being much more susceptible of their effects than others.

PILLS.

Take very pure Strychnine, 2 grains;
Conserve of Roses, 1 dram.

Mix accurately, and make into twenty-four very equal pills. Dose one or two morning and evening.

TINCTURE.

Take Alcohol (of sp. gr. ·837), 1 ounce;
Strychnine, 3 grains.—Mix.

From six to twenty-four drops of this tincture may be administered in mixture or in drink.

MIXTURE.

Take distilled Water, 2 ounces;
Very pure Strychnine, 1 grain;
White Sugar, 2 drams;
Acetic Acid, 2 drops.—Mix.

A dessertspoonful of the foregoing preparation may be taken every morning and evening.

EXTRACT OF NUX-VOMICA.

Take of nux-vomica, any convenient quantity; expose it in a proper vessel to steam until it is completely softened; slice it, dry it thoroughly, and grind it in a coffee-mill; exhaust the powder by either percolating it with rectified spirit, or by boiling it with repeated portions of rectified spirit, till the spirit comes off free of bitterness. Distil off the greater part of the spirit, and evaporate what remains to a proper consistence in the vapor-bath. Dose half a grain, gradually increased to three grains, in the form of pill. When carefully prepared, this extract is an excellent preparation, and might be used instead of strychnine, which is very difficult to prepare, and in general is so much adulterated.

TINCTURE OF NUX-VOMICA.

Take Nux-vomica, rasped, 2 ounces;
Rectified Spirit, 8 ounces.

Macerate for seven days and filter. In consequence of its intense bitterness, the tincture is not much used internally; it is, however, a most excellent remedy in the treatment of nervous tremors and of other nervous symptoms which are so often dependent on dyspepsia and hypochondriasis. Externally it is sometimes employed in the form of embrocation to paralyzed parts. The dose is from ten to thirty drops.

Adulterations.—Strychnine is very liable to adulteration, and as met with in commerce is never free from brucine and coloring matter; and consequently, among the characteristics of the alkaloid, the Edinburgh college has stated that it is strongly reddened by nitric acid, which does not occur unless brucine be present; that it is sufficiently pure for medical purposes, may be known by the following test: "A solution of ten grains in four fluid drams of water by means of one fluid dram of pyroligneous acid, when decomposed by one fluid ounce of concentrated solution of carbonate of soda, yields on brisk agitation an adhesive mass, weighing when dry ten grains, and entirely soluble in solution of oxalic acid."

VERATRINE.

(Veratria.)

It is again to the labors of MM. Pelletier and Caventou that we are indebted for the discovery of the present alkali. These indefatigable chemists having remarked that almost all the individuals of the family of *Veratrum*, besides having the characteristics described by botanists, possess a very acrid taste, and exercise a common action over animals, thought that it would be interesting to discover if these properties did not arise from a particular substance common to all these plants. An analysis of the seeds of the *Veratrum sabadilla* confirmed their conjectures. They isolated this acrid principle, in which they recognised all the alkaline characters. They ultimately discovered it in the root of the colchicum (*Colchicum autumnale*), and in that of the white hellebore (*Veratrum viride*, No. 128); and they called it VERATRINE, from the name of the family to which these vegetables belong.

Preparation.—M. Meissner, who discovered the veratrine nearly at the same time as MM. Pelletier and Caventou, recommends the seeds of the *cevadilla* to be treated with absolute alcohol, the alcoholic infusion evaporated, the residuum treated with water, the liquor filtered, and the veratrine to be precipitated by the carbonate of potassium: it then only remains to wash the precipitate with water. (We may here remark that the process given above for procuring the veratrine is one of the most simple and proper methods of obtaining the ultimate principles of plants in general.)

Description.—Veratrine, when pure, is white, pulverulent, uncrystallizable, inodorous, extremely acrid, fusible by heat, scarcely soluble in cold water, soluble in a thousand parts of boiling water which it renders sensibly acrid, dissolved freely by alcohol, less so by ether, and capable of neutralizing the acids, with several of which, particularly the sulphuric and muriatic, it forms crystallizable salts.

Properties.—In large doses, veratrine operates as a powerful irritant poison, causing inflammation of the stomach and intestines when swallowed, and if applied to the surface of the body producing much irritation. Its action in small or medicinal doses does not appear to be well understood, but it would seem to act as a general stimulant—increased action of the intestines, the kidneys, and the capillaries of the skin, being in general produced by its administration.

Employment.—The dose is one twelfth of a grain, increased very cautiously. The homœopathists use it in their preparations, it is said with great success. I have never employed the article, except in external applications. For an embrocation, one dram of the alkaloid may be dissolved in a fluid ounce of rectified spirit.

OINTMENT.

Take Veratrine, half a dram;
Prepared Lard, 1 ounce;
Olive-Oil, 1 dram.—Mix.

The above forms a good preparation for neuralgia, rheumatism, and painful affections generally.

TINCTURE.

Take Veratrine, 4 grains;
Rectified Spirit, 1 fluid ounce.—Mix.

The dose of the tincture is from five to fifteen drops.

Adulterations.—Veratrine very commonly contains lime: the adulteration may be readily detected by heating a small quantity in a platinum spoon, when, if it be pure, it will be completely dissipated.

OILS.

VEGETABLE OILS.

ALLSPICE-OIL.

(Oleum Pimentæ.)

This oil is obtained from the berries of the common allspice, by the usual process of distillation.

Description.—It is of a yellowish color when first drawn, but soon acquires a reddish tint; it has the peculiar odor of allspice, and a burning aromatic taste. Oil of allspice of commerce is heavier than water, its density being about 1·020.

Properties.—It is a mixture of a heavy and light oil, which may be obtained separately by distillation with solution of potash, as the former forms crystalline compounds with the alkalies. Pimento communicates both odor and taste to boiling water, but it yields its properties more completely to alcohol. It is an aromatic stimulant, but is not much employed in medicine, except to flavor other substances.

ALLSPICE-WATER.

Take Oil of Pimento, 2 drams;
Proof Spirit, 7 fluid ounces;
Water, 2 gallons.

Mix, and distil one gallon. Dose, from one to two fluid ounces. This is carminative and stimulant; it is used in flatulent colic of children, and as a vehicle for other medicines.

ALMOND-OIL.

(Oleum Amygdalæ.)

This oil is obtained equally pure from the sweet and bitter almonds *(Amygdalus communis)*, No. 163.

Preparation.—The almonds, after having been deprived of a reddish-brown-powder adhering to their surface, by rubbing them together in a piece of coarse linen, are ground in a coffee-mill, or bruised in a stone mortar, and then submitted to pressure in canvass sacks between plates of iron slightly heated. The oil, which is at first turbid, is clarified by rest and filtration. One hundred weight of almonds yields from forty-eight to fifty-two pounds of oil.

The description, properties, and uses, of this oil, are treated of in No. 163 of our medicinal plants.

ESSENCE OR VOLATILE OIL OF BITTER ALMONDS.

(Amygdala Amara Oleum.)

Preparation.—Oil of bitter almonds is obtained by submitting bitter-almond cake, left after the separation of the *fixed* oil by expression, to distillation with water.

Description.—As usually met with it is of a golden-yellow color, but when obtained from almonds which have been blanched it is colorless when first drawn. It is transparent, with an agreeable *ratifia* odor, and an acrid, warm, bitter taste. It is heavier than water, its specific gravity being 1·083.

Properties.—This oil consists of from 8·5 to 14·33 per cent. of pure hydrocyanic acid, mixed with benzoic acid, benzoin, benzimide, and hydruret of benzoil. Its poisonous and medicinal properties depend on the prussic acid, which may be completely removed from it by repeated distillation from a solution of caustic potash. The oil is very soluble in alcohol and ether; by agitation with water, a portion of the prussic acid is dissolved out, and the water acquires the peculiar odor and taste of the acid.

As the medicinal properties of this oil depend on the prussic acid it contains, its effects and uses are of course similar to those of that acid, for which it has been proposed as a substitute; but as its strength is very variable, it is scarcely adapted for internal use. It should be borne in mind that the oil of bitter almonds is at least four times the strength of officinal prussic acid.

Employment.—Two drops dissolved in half a dram of rectified spirit: of this solution from three to six drops may be given occasionally.

VEGETABLE PRUSSIC ACID.

Take Volatile Oil of Bitter Almonds, 4 drops;
Rectified Spirit and distilled Water, of each 30 drops.—Mix.

Dose, from two to three drops every second or third hour.

AMBER-OIL.

(Oleum Succini.)

Preparation.—Put amber into an alembic, so that an acid liquor, an oil, and a salt contaminated with the oil, may distil in a sand-bath, with a heat gradually increased. Afterward let the oil distil again and a third time.

Description.—As first procured, it is a thick, very dark-colored liquid, of a peculiar, strong, empyreumatic odor. In this state it is occasionally employed as a liniment, but for internal use it should be rectified.

Properties.—Although once highly esteemed in medicine as anti-spasmodic, this preparation really possesses such feeble medicinal properties, and is so little employed in the present day, that we might very well omit any account of it here. The dose is from five to ten drops.

Neligan describes this oil as "an active rubefacient, producing irritation and slight inflammation of the skin when applied with friction." It is sometimes employed in chronic rheumatism and paralysis, but its most general use is as a local application in hooping-cough. in the following form, commonly known as "Roche's embrocation:"—

Take Oil of Amber, 3 drams;
Oil of Cloves, 1 dram;
Olive-Oil, 1 ounce.—Mix.

Adulterations.—The scrapings of *copal* and the resin *dammar* are often substituted for amber, and yield an oil scarcely distinguishable from the genuine.

RECTIFIED OIL OF AMBER.

(Oleum Succini Rectificatum.)

Preparation.—Take of oil of amber, a pint; water, six pints. Mix them in a glass retort, and distil until four pints of the water shall have passed with the oil into the receiver; then separate the oil from the water, and keep it in well-stopped bottles.

Description.—When quite pure it is colorless, as fluid as alcohol, of the specific gravity 0·758 at 75° Fahr., and boils at 186°. It has a strong, peculiar, unpleasant odor, and a hot, acrid taste. It imparts these properties in some degree to water, without being perceptibly dissolved. It is soluble in eight parts of alcohol of the specific gravity 0·847 at 55° Fahr., in five parts of the specific gravity 0·825, and in all proportions in absolute alcohol. The fixed oils unite with it. On exposure to the light and air, it slowly changes in color and consistence, becoming ultimately black and solid.

Properties.—This oil is stimulant and anti-spasmodic, and occasionally promotes the secretions, particularly that of urine. It has been employed with advantage in amenorrhœa, in tetanus, epilepsy, hysteria, hooping-cough, and in infantile convulsions from intestinal irritation, &c.

Employment.—The dose is from five to fifteen drops, diffused in some aromatic water by means of sugar and gum-arabic. Externally applied the oil is rubefacient, and is considerably employed as a liniment in chronic rheumatism and palsy, and in certain spasmodic disorders, such as hooping-cough and infantile convulsions. In the latter affection it should be rubbed along the spine, and was highly recommended by the late Dr. Parrish, mixed with an equal measure of laudanum, and diluted with three or four parts of olive-oil and of brandy.

ANISE-OIL.

(Oleum Anisi.)

THIS oil is distilled, in the usual manner, from the anise-seed *(Pimpinella anisum)*, No. 89. Its description and uses we have described in the article above indicated.

ARNICA-OIL—(Ethereal).

(Oleum Æthereum Florum Arnicæ.)

We are indebted to Dr. R. Dunglison, of Philadelphia, for the introduction of this oil to our materia medica. He says: "This oil is obtained from the flowers [of the mountain arnica *(Arnica montana)*, No. 279], and has been much recommended by Schneider in old cases of paralysis, which are the result of the apoplectic condition. He himself often administered it with evident success; the paralytic limbs becoming warmer, more active, and more serviceable, under its use. He mixes four drops of arnica-oil with half an ounce of spirit of sulphuric ether, and of this he gives for a dose from four to twelve drops several times a day. The mixture has an agreeable smell and taste. Four drops of the oil to four ounces of sugar form a good *elæosaccharum.*"

BAY-OIL.

(Oleum Lauri.)

The oil of bays is an expressed oil obtained from the berries of the sweet bay *(Laurus nobilis)*, and is generally imported in barrels from Trieste.

Preparation.—It is obtained from the fresh and ripe berries, by bruising, boiling them for three hours in water, and then pressing. The expressed oil is mixed with the decoction, on which, when cold, the butyraceous oil is found floating.

Description.—This oil has a butyraceous consistence, and a granular appearance. Its color is greenish, and its odor that of the berries.

Properties and Uses.—It is partially soluble in alcohol, and completely so in ether. With alkalies it forms soap. It is occasionally employed externally as a stimulating liniment in sprains and bruises, and in paralysis. It has also been used to relieve colic, and against deafness. Its principal use, however, is in veterinary practice. Culpepper, the quaint old author before quoted, says of this oil, "It helps the colic, and is a sovereign remedy for any diseases in any part of the body, coming of either wind or cold!"

BENNE-OIL.

(Oleum Sesami.)

This oil is expressed from the seeds of the bene-benni *(Sesamum indicum)*, No. 226.

Description.—It is inodorous, of a bland, sweetish taste, and bears some resemblance to olive-oil in its properties, and may be used for similar purposes. It was known to the ancient Persians and Egyptians, and is highly esteemed by the modern Arabs and other people of the East, both as food and as an external application to promote softness of the skin. Like olive-oil, it is laxative in large doses.

BERGAMOT-OIL.

(Oleum Bergamii.

Oil of bergamot *(Citrus limetta)* exists in the rind of the fruit, from which it is obtained by either expression or distillation. It is imported from the south of Europe. It is of a pale greenish-yellow color, has a peculiar fragrant odor, and a warm, pungent taste. Its specific gravity is 0·862. It is only employed in medicine as a perfume, chiefly to give an agreeable odor to ointments, yet it possesses the excitant properties of the volatile oils in general.

BUTTERNUT-OIL.

(Oleum Juglandis.)

This oil is extracted from the fruit of the butternut-tree *(Juglans cineria)*, No. 319, in the same manner as the oil of almonds is obtained.

Properties and Uses.—This article is strongly cathartic, and resembles in its effects the croton-oil, but is not so efficient or powerful. It is seldom administered internally where croton-oil can be obtained. The dose is from three to five drops in pill or some convenient menstruum. It is usefully employed to drop into the ear, to dissolve the hardened wax.

CAJEPUT-OIL.

(Oleum Cajuputi.)

This volatile oil is expressed from the leaves of the *Melaleuca cajuputi*, a native of the Molucca islands.

Preparation.—The leaves are gathered in the end of September, macerated for twenty-four hours with water, and then put into a copper still with sufficient water to prevent empyreuma. The oil comes over with the water into the receiver and floats on the surface.

Description.—Cajeput-oil is limpid, very mobile, transparent, and of a fine pale bluish-green color. It has a strong, agreeable odor, resembling a mixture of camphor, roses, and peppermint; the taste is warm and aromatic, leaving a sensation of coldness in the mouth. Its specific gravity is about .925. It boils at 343°, and may be obtained nearly colorless by redistillation. It is soluble in alcohol.

Properties.—This oil is a powerful diffusible stimulant, producing swallowed a sense of heat, with an increased fullness and frequency of and exciting in some instances profuse perspiration. It is very esteemed by the Malays and other people of the East, who conside universal panacea. They are said to employ it with great success in epilepsy and palsy. The complaints to which it is best adapted are probably chronic rheumatism, and spasmodic affections of the stomach and bowels, unconnected with inflammation.

Employment.—Diluted with an equal proportion of olive-oil, it is applied externally to relieve gouty and rheumatic pains. Like most other highly stimulating essential oils, it relieves toothache, if introduced into the hollow of the carious tooth. The dose is from one to five drops, given in emulsion or on sugar.

Adulterations.—In consequence of its nigh price, cajeput-oil is often counterfeited with oil of rosemary, colored, and flavored with camphor and cardamom-seeds. The fraud is one difficult of detection. As imported, it sometimes contains copper, which may be recognised by its affording a reddish precipitate when agitated with a solution of ferrocyanide of potassium.

CARAWAY-OIL.

(Oleum Carui.)

This oil is distilled, in the usual manner, from the seeds of the *Carum carui*, No. 73.

Description.—The seeds contain about five and a half per cent. of a light-yellow volatile oil, of a fragrant odor, and a warm, aromatic taste.

Properties and Uses.—Caraway-oil is an agreeable aromatic stimulant, and is much used to impart flavor to medicines and to correct their nauseating and griping effects. For doses and means of detecting adulterations, see plant No. 73.

CASTOR-OIL.

(Oleum Ricini.)

For a full description of this oil and its properties, see the article on the plant *Ricinus communis*, No. 359.

CAYENNE-OIL.

(Oleum Capsicin.)

Oil of capsicum is obtained from the pods of the bird pepper *(Capsicum baccatum)*, No. 38, to which article we refer.

This oil possesses a most intolerable warmth and acrimony of taste, and concentrates all the stimulant properties of the pods. When applied to the skin of the hand, its action is immediately felt, and produces a redness. It is of a brilliant reddish-yellow color, has a peculiar odor, an aromatic taste, and can not be distilled without undergoing decomposition. It is obtained by digesting capsicum-pods in sulphuric ether for two weeks, filtering the ethereal tincture, and leaving it to a spontaneous evaporation. As the ether falls, drops or crystals of capsicin, assuming curious dendroid forms, will be seen studded around the inside of the vessel; and after all the ether is dissipated, the warm aromatic or concentrated oil of capsicum will be found at the bottom.

But the best oil of capsicum is procured by expression from the pulverized pods. The powder is put into a small iron cylinder, moderately heated, and submitted to the action of a very powerful screw. The oil thus expressed is of a dark-red color, and has in an eminent degree all the warmth and acrimony of the pods. It is used as a rubefacient, mixed with olive-oil, in rheumatism and many painful affections.

CHAMOMILE-OIL.

(Oleum Anthemidis.)

From the chamomile-flowers *(Anthemis nobilis)*, No. 277, an oil is obtained by the usual process of distillation. It is of a greenish-blue color, and has the peculiar odor and the aromatic taste of the flowers. One hundred weight of flowers yield from one and a half to two fluid ounces of the oil. Its specific gravity is 0·9083. It contains a hydrocarbon, and an oxydated oil, the last of which, treated with potash-infusion, gives valerianic acid.

Properties and Uses.—It has sometimes been used in spasms of the stomach, and as an adjunct to purgative medicines. The dose is from five to fifteen drops. In Europe, an oil extracted from the *Matricaria chamomilla* is employed under the name of oil of chamomile. It is dark blue, thick, and nearly opaque, becoming brown and unctuous by time. It has the odor of the plant from which it is derived, and an aromatic taste.

CINNAMON-OIL.

(Oleum Cinnamomi.)

This oil is obtained from the bark of the cinnamon-tree *(Laurus cinnamomum)*, No. 141.

Preparation.—Macerate the bark in sea-water for forty-eight hours, and then submit it to distillation.

Description.—Recently prepared oil of cinnamon is of a light-yellow color, becoming deeper by age, and ultimately red. Pereira states that the London druggists redistil the red oil, and thus obtain two pale-yellow oils, one lighter and the other heavier than water, with a loss of about ten per cent. in the process. The oil has the flavor of cinnamon in a concentrated state. When applied undiluted to the tongue it is excessively hot and pungent. Chinese oil of cinnamon (oil of cassia) is imported from Canton and Singapore. It has a pale-yellow color, which becomes red with age. Its flavor is similar to that of oil of cinnamon, though inferior, and commands a much smaller price in the market.

Properties.—Oil of cinnamon is of the specific gravity of about 1·035, and is consequently heavier than water. Alcohol completely dissolves it. When exposed to the air, it absorbs oxygen, and is said to be slowly converted into a peculiar acid denominated *cinnamic* or *cinnamonic* acid, two distinct resins;

and water. Cinnamic acid is colorless, crystalline, of a sourish taste, volatilizable, slightly soluble in water, readily dissolved by alcohol, and convertible by nitric acid with heat into benzoic acid. It is sometimes seen in crystals in bottles of the oil which have been long kept. Like benzoic acid, it is said when swallowed to occasion the elimination of hippuric acid by urine. The oil has the cordial and carminative properties of cinnamon, without its astringency, and is much employed as an adjuvant to other medicines, the taste of which it corrects or conceals, while it conciliates the stomach. As a powerful local stimulant it is sometimes prescribed in gastrodynia, flatulent colic, and languor from gastric debility. The dose is one or two drops, and may be most conveniently administered in the form of emulsion.

WATER.

Take Oil of Cinnamon, 2 drams;
Proof Spirit, 6 fluid ounces;
Water, 2 gallons.—Distil 1 gallon.

The above forms an agreeable vehicle for other medicines.

SPIRITS.

Take Oil of Cinnamon, 2 drams;
Proof Spirit, 1 gallon;
Water, 1 pint.—Mix, and with a slow fire distil a gallon.

CLOVE-OIL.

(Oleum Caryophylli.)

THIS is obtained from the clove-tree of the Molucca islands *(Eugenia caryophyllata)*, No. 188, to which we refer for a more particular description.

COPAIBA-OIL.

(Oleum Copaibæ.)

THIS oil is made from the balsam-of-copaiba plant *(Copaifera officinalis)*, No. 351, in the following manner:—

Preparation.—Take of copaiba, one ounce; water, one and a half pints, imperial measure. Distil, preserving the water; when most of the water has passed over, heat it, return it into the still, and resume the distillation; repeat this process so long as a sensible quantity of oil passes over with the water.

Description.—It is transparent and colorless, has a density of 0·878, boils at 473°, and is soluble in alcohol and ether. Its composition is isomeric with that of oil of turpentine.

Employment.—The oil is preferred by many to any other preparation of copaiba, but it frequently fails. The dose is from fifteen to thirty drops, on sugar. When pure, it answers better than naphthæ for preserving potassium. For properties, see the article on the plant (No. 351).

CREASOTE.

(Creasotum.)

THIS is a substance of the nature of volatile oils, discovered in 1830 by Dr. Reichenbach. It exists in pyroligneous acid, in wood-smoke, and in wood-tar, from the latter of which it is usually prepared. Different processes are followed by different manufacturers for the preparation of creasote, which are very complicated, and can only be successfully executed on a large scale.

Description.—Pure creasote is a colorless, transparent, oily-looking liquid, having a smoky odor, and a bitter, acrid, somewhat caustic taste. Its specific gravity at 68° Fahr. is 1·066. It is inflammable, and burns with a very sooty flame.

Properties.—Applied to the skin in a concentrated state it corrugates and then destroys the cuticle. As an astringent it is chiefly employed externally, but it is also used as an internal remedy with much benefit in some diseases. Its principal uses are, as a styptic to arrest hemorrhage, which it does very effectually when the bleeding proceeds from small vessels, as in some forms of hematemasis, and of bleeding from the intestines, in cuts or abrasions, from leech-bites, or from ulcerated surfaces, in mucous diarrhœa; as an application to indolent ulcers, especially when accompanied with a sanious discharge; to chronic venereal or phagedenic ulceration; to ulcerated chilblains, in chronic skin-diseases, particularly those of the scalp; and as an injection in leucorrhœa. Dr. Fahnestock, of Pittsburg, has treated erysipelas with great success by using this article. "Such has been the success of this treatment," says he, "that I have as yet to witness a case that has not yielded to it. In every case of local erysipelas, I immediately apply the purest creasote with a camel's-hair brush over the whole of the affected surface, extending it some distance beyond the inflamed part, and at the same time administering a brisk purge. This, in the majority of cases, is all I find necessary; but when the mucous membrane of the mouth and fauces is also affected, I pencil those parts with a strong solution of nitrate of silver, say from half a dram to a dram in one ounce of distilled water.

"In the phlegmonous form it will be found necessary to repeat the application more frequently than in the simple, with the addition of a bread-and-water poultice, applied nearly cold and well sprinkled with water strongly impregnated with the creasote, or a cloth kept constantly wet with the solution, especially for the face. The creasote when applied should cause the part to become white immediately. If this does not occur, it is not pure. Thus it will be perceived that success depends upon having the best quality of oil. It is worthy of remark that the skin does not become in the least marked by the application, no matter how often it is made."

Dr. Friese, of Goldapp, Germany, assures us that he employed every kind of treatment in vain, until he thought of applying creasote, in the case of a lady who was affected with cancerous ulceration of the skin covering the calf of the leg. One part of creasote in three of distilled water was applied over the surface of the leg, which quickly became white, and was soon afterward covered with a thin eschar. The latter was detached on the fourth day, and the sore was covered with healthy granulations. The central part healed up after the third application; the edges, however, did not cicatrize before the lotion had been applied seven times: on the last occasion equal parts of creasote and water were used. The lady was thus perfectly cured.

The creasote, applied by means of cotton to a defective tooth, is a popular remedy for the toothache, and is often very successful. We have been cautioned against its employment for this purpose, lest it should occasion a paralysis; but our impression at present is, that nothing but a careless and improper use of it would produce such an effect.

Employment.—The dose of creasote, when given internally, is from one to two drops, gradually increased to five, dissolved in at least an ounce or an ounce and a half of water, and frequently repeated. In the external application of creasote in the form of wash, its little solubility in water should be remembered, for if an excess be present it will float on the surface, and being thus directly applied, will produce an effect very different from what was intended.

WASH.

Take Creasote, from 2 to 6 drops;
Water, 1 fluid ounce.—Dissolve.

OINTMENT.

Take Creasote, half a fluid dram;
Lard, 1 ounce.

Melt the lard, add the creasote, and stir briskly until cool.

PILLS.

Take Creasote, 10 drops;
Pulverized Licorice, 1 dram;
Mucilage of Gum-Arabic, sufficient to form a mass.

Divide this into twenty pills. Dose, two pills three times a day, and may be gradually increased to eight or ten. Given in neuralgia, atonic rheumatism, and chronic bronchitis.

DRAUGHT.

Take Creasote, 1 drop;
Camphor-Water, 6 fluid drams;
Infusion of Gentian compositum, 6 fluid drams.

Make a draught. This is beneficial to check vomiting.

MIXTURE.

Take Creasote, 5 drops;
Mucilage of Gum-Arabic, 3 fluid ounces;
Sirup of Marshmallow, 1 ounce.—Mix.

This forms a useful preparation in hemoptysis, given in doses of a spoonful every three hours.

CUBEBS-OIL.

(Oleum Cubebæ.)

THIS oil is prepared by grinding the fruit of cubebs *(Piper cubeba)*, No. 16, and distilling the same with water.

Description.—It is of a pale greenish-yellow color, transparent and limpid, with the peculiar odor and taste of cubebs. Its density is 0·929.

Properties.—The oil of cubebs is an excellent and most convenient substitute for the powder. The dose, at the commencement of its use, is from ten to twelve drops. This quantity is to be gradually increased as long as the stomach will bear it. In some instances it has been given to the extent of a fluid dram for a dose. It may be taken suspended in water by means of mucilage, or dropped on sugar. A combination of oil of cubebs and oil of copaiba forms a very useful medicine in some cases of gonorrhœa. In Europe a preparation, called the *oleo-resinous extract of cubebs*, is used. It is prepared by adding the oil to the resinous extract of cubebs, which is made by digesting the cake left after the distillation of the oil in alcohol, and distilling off the spirit.

DILLSEED-OIL.

(Oleum Anethi.)

DILLSEED-OIL is prepared, in the usual manner of distillation of volatile oils, from the dill *(Anethum graveolens)*, No. 69. Two hundred pounds of the seed are said to yield eight pounds and five ounces of the oil.

Description.—It is of a pale-yellow color, of the specific gravity of 0·881, and its odor is peculiar and penetrating, analogous to that of the fruit. Its taste is hot, but sweetish. Alcohol and ether readily dissolve it. According to Tietzmann, 1,440 parts of water dissolve one part of this oil.

Properties and Uses.—Identical with those of the seed. It may be administered in doses of from one to five drops, rubbed up with sugar.

WATER.

Dill-water is ordered to be prepared by a distillation of the seed in spirit and water, but it is usually made by diffusing the oil through water by the aid of sugar and spirit. It is carminative, and is given in doses for adults of from one to three ounces; to infants, from one to three drams. It is generally given to infants in their food.

ERGOT-OIL.

(Oleum Ergotæ.)

THE liquid sold in the shops, under the name of *pure oil of ergot*, is obtained by submitting the ethereal tincture of ergot (which is procured by percolation) to evaporation by a very gentle heat.

Description.—Its color is reddish brown. Dr. Wright, of Edinburgh, states that this depends on the age of the ergot, and that when obtained from recent specimens it is not unfrequently entirely free from color. Its taste is oily and slighty acrid. It is lighter than water, and is soluble in alcohol and in solutions of the caustic alkalies.

Properties and Uses.—To the remarks under the article ERGOT, No. 360, we have only to add that, according to evidence adduced by Dr. Wright, the oil possesses the same influence over the uterus as the crude drug; that is, it occasions powerful uterine contractions. To produce this effect, it should be given in doses of from twenty to fifty drops in any convenient vehicle, as cold water, warm tea, or weak spirit-and-water.

FENNEL-OIL.

(*Oleum Fœniculi.*)

THE oil of fennel is distilled in the usual manner from the seed of the *Anethum fœniculum*, No. 68.

Description.—Fennel-seeds yield 2·5 per cent. of oil. That used in this country is imported. It is colorless or yellowish, with the odor and taste of the seeds. Its specific gravity is 0·997. It congeals below 50° into a crystalline mass, separable by pressure into a solid and liquid oil (STEAROPTENE and ELEOPTENE), the former heavier than water, and less volatile than the latter, which rises first when the oil is distilled. As found in the shops, therefore, the oil of fennel is not uniform, some specimens not congealing at 22°. It consists of carbon, hydrogen, and oxygen.

Properties and Uses.—Fennel-oil is a warm aromatic stimulant, and possesses all the properties of the seeds. The doses vary from two to ten drops, rubbed up with sugar.

FERN-OIL.

(*Oleum Felicis-maris.*)

THIS is an impure oil of fern, made from the rhizome of the male fern (*Aspidium filix-mas*), No. 343, and was introduced to the notice of the profession by Drs. Peschier and Fosbroke.

Preparation.—The tufts of the rhizome are reduced to a moderately fine powder, exhausted with ether, and the ethereal liquor distilled. A pound of the rhizome yielded Soubeiran one and a half ounces of thick black oil, having the aromatic odor of fern. It may also be prepared from the buds. By substituting alcohol for ether, twelve or thirteen drams of oil can be obtained from two and three fourth pounds of the rhizome.

Properties and Uses.—Drs. Peschier and Fosbroke assure us that they have used this article with great success as a vermifuge. The dose is from half a dram to a dram, in the form of electuary, emulsion, or pills: an hour afterward, an ounce or one and a half ounces of castor-oil should be exhibited. Numerous testimonials of its efficacy have been published.

FLAXSEED-OIL.

(Oleum Lini.)

This oil is produced from the seeds of the common flax *(Linum usitatissimum)*, No. 102.

Preparation.—To prepare flaxseed-oil, the seeds are first bruised or crushed, then ground, and afterward subjected to pressure in the hydraulic or screw press. They yield by cold expression 18 or 20 per cent. of oil; but by the aid of heat, from 22 to 27 per cent.

Description.—Flaxseed-oil is usually amber-colored, but it may be rendered quite colorless. It has a peculiar odor and taste, and is soluble in alcohol, but more readily so in ether. When exposed to the air it dries into a hard, transparent varnish. This change is greatly accelerated by boiling the oil, either alone or with litharge, with sugar of lead, or with common white vitriol. The resulting oil is called *drying oil* or *boiled oil.* The efficacy of the process is ascribed by Liebig to the elimination of substances which oppose the oxydation of the oil.

Properties and Uses.—It is laxative in the dose of a fluid ounce, but on account of its disagreeable taste it is seldom given internally. It is sometimes added to purgative injections, but its most common application is externally to burns, and usually in combination with lime-water.

CARRON-OIL.

Take Linseed-Oil, 3 fluid ounces;
Lime-Water, 3 fluid ounces.—Mix with a brisk agitation.

This forms an excellent application to recent scalds and burns.

FLEABANE-OIL.

(Oleum Erigeron.)

This is a distilled oil from the herb fleabane *(Erigeron canadensis)*, No. 285. Although much has been published in relation to this oil, we are obliged to confess ourselves wholly indebted to Dr. Daniel Higbie, of Oaks' Corners, Ontario county, New York, for the best *available* information as to its properties and effects in disease. We were first apprized of its qualities by the observations of Dr. Garret Lawrence, of the Society of Shakers at New Lebanon; but Dr. Higbie has had such favorable opportunities of testing the article, that we can do no better than give the substance of his experience. He regards it as being almost a specific in any of the following diseases, unaccompanied by fever or constipation, viz.: hemorrhoids, uterine hemorrhage, spinal irritation, dysentery, great nervous debility, bruises, burns, scalds, cuts, &c. He uses it in doses of from five to seven or ten drops internally and externally. In spinal irritation, it is best, he says, to employ the essence, as being stronger; it is vigorously rubbed over the affected parts for five or ten minutes. In cases where there is fever, arterial excitement must first be allayed before resorting to it; also in costiveness, the bowels should be evacuated previous to the administration of the oil. In uterine hemorrhage it is an excellent remedy, the strong essence given in teaspoonful doses, and repeated according to circumstances: the second dose is seldom requisite.

In spinal irritation, the back bathed with the oil of erigeron morning and evening, accompanied with heat and friction, will, according to Dr. Higbie, cure nine cases in every ten. Alteratives and restoratives should also be administered internally. The pain will almost instantly cease on the application of the oil.

In dysentery, in the absence of fever, or after having cleansed the stomach and bowels, and aroused the action of the liver, from six to eight drops of the oil given two or three times a day in half a teaspoonful of prepared chalk, will often cure the complaint when every other means has failed.

In cuts, burns and scalds, bruises, &c., and in great nervous debility, this oil is also an excellent remedy. In the latter affection two or three drops may be applied twice a day.

GOLDEN-ROD OIL.

(Oleum Solidago.)

This is a volatile oil distilled in the usual manner, in water, from the sweet-scented golden-rod *(Solidago odora)*, No. 293.

Description.—The golden-rod oil is of a less specific gravity than water, of a pale greenish-yellow color, and of a pleasant odor.

Properties.—The active properties of the plant are found in this oil, and its proper administration is in cases where the herb is commonly administered.

Employment.—This oil forms a good addition to cephalic snuffs, as well for its odor as its efficacy in curing headaches, and it is also a pleasant adjuvant to nauseous and disagreeable compounds. The essence is much used in nervous headaches, in bathing the temples, and teaspoonful doses taken inwardly.

HEMLOCK-OIL.

(Oleum Pinus-canadensis.)

This is an oil distilled from the boughs and twigs of the hemlock-tree *(Pinus canadensis)*, No. 355, in the ordinary manner.

Properties and Uses.—Hemlock-oil is a very valuable article. It is anodyne and sudorific in doses of from eight to fifteen drops, rubbed up with sugar; but it is generally employed as an excellent addition to drops and liniments in sprains, bruises, swellings, rheumatism, &c. It is a good rubefacient, and is also used to flavor unpleasant medicines. It enters into our *Rheumatic Liquid.*

HORSEMINT-OIL.

(Oleum Monardæ.)

This is commonly known in the shops as the oil of monarda, and is distilled from the fresh herb of the *Monarda punctata*, No. 9.

Description.—It has a reddish-amber color, a fragrant odor, and a warm, very pungent taste.

Properties.—Applied to the skin it acts as a very powerful rubefacient, quickly producing heat, pain, redness, and even vesication. It is employed externally with advantage in low forms of typhus fever, cholera-infantum, chronic rheumatism, and other affections in which rubefacients are indicated.

Employment.—In ordinary cases it should be diluted before being applied. It may be given internally as a stimulant and carminative, in the dose of two or three drops mixed with sugar and water.

JUNIPER-OIL.

(Oleum Juniperi.)

The oil of juniper *(Juniperus communis)*, No. 338, is obtained by submitting the fruit, tops, or wood, to distillation with water. The full-grown green fruit yields more than the ripe fruit; for, in the act of ripening, a portion of the oil becomes converted into resin.

Description.—It is limpid, transparent, nearly colorless, and lighter than water. It has the odor of the fruit, and an aromatic, balsamic taste. It dissolves with difficulty in alcohol.

Properties.—According to Blanchet, it consists of two isomeric oils: one colorless, and more volatile; a second colored, and less volatile. Both, when agitated with a solution of salt, form crystalline hydrates. The composition of oil of juniper is analogous to that of oil of turpentine. It is a strong diuretic, and has all the medicinal qualities of the berries.

Employment.—The oil is perhaps the best form of exhibiting juniper. The dose is from two to six drops, either in the form of pill, or diffused through water by the aid of sugar and mucilage. It is to the presence of this oil that the spirit called *Geneva* or *Hollands*, owes its peculiar flavor and diuretic properties. Two drops rubbed up with white soap, and given three times a day, are excellent in gravel.

LAVENDER-OIL.

(Oleum Lavendulæ.)

Lavender-flowers *(Lavendula spica)*, No. 221, are submitted to distillation in the usual manner to produce this elegant volatile oil.

Description.—It has a pale-yellow color, a hot taste, and a very fragrant odor. Its specific gravity varies from 0·877 to 0·905; the lightest oil being the purest. It boils at 397° Fahr. One pound of oil is obtained from fifty to seventy pounds of the flowers. When the stalks and leaves are distilled with the flowers, the odor of the oil is considerably deteriorated.

Properties.—It is a stimulant and stomachic, and is sometimes given in hysteria and headache; but is more commonly employed as a perfume for scenting evaporating lotions, ointments, liniments, &c.

Employment.—The dose is from two to five drops.

WATER.

The fragrant perfume known in the shops as the *lavender-water*, may be made as follows:—

Take Oils of Lavender and Bergamot, of each 3 fluid drams;
Otto of Roses and Oil of Cloves, of each 6 drops;
Oil of Rosemary, 1 dram;
Honey, 1 ounce;
Benzoic Acid, 2 scruples;
Rectified Spirit, 1 pint;
Distilled Water, 3 ounces.

Mix, and after standing a sufficient time (the longer the better), filter. This agreeable perfume may be employed for scenting spirit washes, &c., but is principally consumed for the toilet.

LEMON-OIL.

(Oleum Limonum.)

The oil of lemons is usually procured by expression from the rind of the fruit of the lemon-tree *(Citrus medica)*, No. 187.

Preparation.—The flavedo of the lemons is removed by rasping, and is afterward expressed in hair sacks. The oil which is thus procured is received in flasks, where it deposites some of its impurities, and is then decanted and filtered. Expressed oil of lemons is somewhat turbid, and liable to undergo change by keeping, owing to the mucilaginous matter which it contains in solution. Oil of lemons may also be procured by distillation, and the oil thus obtained is pure, not disposed to undergo change by keeping, and is employed, under the name of *scouring-drops*, for removing grease-spots from silks and other textures; but its flavor is less pleasant and sweet. The greater part of the oil of commerce is brought from Portugal and Italy; some, however, is procured from France.

Description.—When quite pure, this oil is colorless, limpid, and of a fragrant odor, like that of lemons. Its specific gravity at 70° Fahr. is 0·847. It is soluble in all proportions in anhydrous alcohol, and it boils at about 145°. When the commercial oil is exposed to a temperature of —4°, it deposites white crystals, whose nature is not known; the rectified oil remains perfectly liquid and transparent at this temperature.

Properties and Uses.—Oil of lemons is an aromatic stimulant; it is only used internally to give an agreeable flavor to other medicines. As a topical remedy it is highly praised by the Germans as a stimulant in rheumatic and chronic ophthalmia, for which purpose it is dropped into the eye. It was first used in these diseases by Dr. Worlitz, who applied it by squeezing the little drops from the rind of the lemon into the eye. He employed it with good effect in rheumatic, catarrhal, and scrofulous inflammations of the eye, in pannus and pterygium, and in opacity and some other consequences of inflammation of the cornea. As a perfume, it is an exceedingly useful adjunct to sulphur-ointment, and in evaporating lotions. To this, as to some other volatile oils, has been ascribed the power of promoting the growth of the hair, and, in consequence, it has been added to pomatum.

LOBÈLIA-OIL.

(Oleum Lobeliæ.)

The lobelia-seed *(Lobelia inflata)*, No. 52, abounds in a fixed oil, which may be expressed from the pulverized seed in the same manner as recommended for the oil of capsicum.

Description and Uses.—This oil is of a consistence nearly like that of linseed-oil, and possesses the drying qualities common to the fixed oils. Its specific gravity is ·940. It possesses all the medical properties of the seed, yet, in a therapeutic point of view, it has not many advantages over the seed itself, and has never as yet obtained the character of an independent therapeutic agent.

MACE-OIL.

(Myristicæ Adeps.)

This is a concrete, expressed oil from the nutmeg *(Myristica moschata)*, known in the shops as *oil of mace*, although improperly so called.

Preparation.—It is obtained by bruising nutmegs, exposing them in a bag to the vapor of water, and then compressing them strongly between heated plates. A liquid oil flows out, which becomes solid when it cools. Nutmegs are said to yield from 10 to 12 per cent. of this oil. The best is imported from the East Indies in stone jars.

Description.—This oil is solid, soft, unctuous to the touch, of a yellowish or orange-yellow color, more or less mottled, with the odor and taste of nutmeg. It is composed, according to Schrader, of 52·09 per cent. of a soft, oily substance, yellowish or brownish, soluble in cold alcohol and ether; 43·75 of a white, pulverulent, inodorous substance, insoluble in these liquids; and 4·16 of volatile oil.

An inferior kind of expressed oil of nutmegs is prepared in Holland, and sometimes found in the shops. It is in hard, shining, square cakes, of a lighter color than that from the East Indies, and with less smell and taste. It is supposed to be derived from nutmegs previously deprived of most of their volatile oil by distillation. An artificial preparation is sometimes substituted for the genuine oil. It is made by mixing together various fatty matters, such as suet, palm-oil, spermaceti, wax, &c., adding some coloring substance, and giving flavor to the mixture by the volatile oil of nutmeg.

Properties and Uses.—As the virtues of nutmeg depend chiefly if not exclusively on the volatile oil, the latter may be substituted whenever a liquid preparation is desirable. It has been employed as a gentle external stimulant in chronic rheumatism and paralysis.

MARJORAM-OIL.

(Oleum Origani.)

This is the *oil origanum* and *oil of thyme* of the shops, and is obtained by the distillation of the wild marjoram *(Origanum vulgare)*, No. 230. The plant varies exceedingly in the proportion which it affords. The mean product may be stated at from four to six parts from a thousand; in other words, one hundred pounds of the herb yield on an average from eight to ten ounces of the oil.

Description.—The recent oil, when properly prepared, is of a yellow color; but if too much heat is used in the distillation, it is said to be reddish, and it acquires the same tint by age. It may be obtained colorless by rectification. It has the odor of the plant, and a hot, acrid taste. Kane gives its specific gravity 0·867, and its boiling point 354°. According to Lewis, its specific gravity is 0·940; according to Brande, 0·909.

Properties and Uses.—It is very seldom administered internally at the present day, but may be given in doses of from one to three drops, on sugar. It is sometimes employed to relieve toothache, dropped on cotton and placed in the hollow of a carious tooth. Dissolved in olive-oil, it is used as a stimulating embrocation. It enters into many compound liniments, and is an efficient addition to them.

MUSTARD-OIL.

(Oleum Sinapi.)

From the seeds of the black mustard *(Sinapis nigra)*, No. 246, we obtain this volatile oil, after they have been deprived of their fixed oil by pressure.

Description.—It is a colorless or pale-yellow liquid, rather heavier than water, of an exceedingly pungent odor, and an acrid, burning taste. It boils at about 290°; is slightly soluble in water, and readily so in alcohol and ether; with alkaline solutions yields sulphocyanurets; and, according to Dumas and Pelouze, consists of 49·53 parts of carbon, 5·02 of hydrogen, 11·74 of oxygen, 13·45 of nitrogen, and 20·26 of sulphur. It is the principle upon which black-mustard seeds depend for their activity. The seeds of the white mustard do not yield volatile oil when treated with water.

Properties and Uses.—This oil is powerfully rubefacient, and capable of producing speedy vesication. It has been considerably used in Germany. For external application as a rubefacient, thirty drops may be dissolved in a fluid ounce of alcohol, or six or eight drops in a fluid dram of almond or olive oil. It has been given internally in colic, two drops being incorporated with a six-ounce mixture, and half a fluid ounce given in a dose.

NUTMEG-OIL.

(Oleum Myristicæ.)

This is the *volatile* oil of nutmegs, the *expressed* oil being the *oil of mace*, described on the preceding page.

Description.—This oil is made from powdered nutmegs by distillation with water. It is colorless or of a pale straw-color, limpid, lighter than water, soluble in alcohol and ether, with a pungent, spicy taste, and a strong smell of nutmeg. It consists of two oils, which may be separated by agitation with water, one rising to the surface, the other sinking to the bottom. Upon standing it deposites a crystalline stearoptene, which is called Myristicin.

Properties and Uses.—It may be used for the same purposes as nutmeg, in the dose of two or three drops; but it is not often employed.

SPIRIT.

Take Oil of Nutmeg, 20 drops;
Proof Spirit, 1 fluid ounce.—Mix.

This preparation is stimulant and aromatic, and is an excellent addition to cathartic mixtures to prevent griping. Dose, from one to four fluid drams.

OLIVE-OIL.

(Oleum Olivæ.)

The pericarp, or fleshy part of the ripe olive *(Olea europæa)*, No. 10, abounds in a fixed oil, which constitutes its greatest value, and for which the tree is chiefly cultivated in the south of Europe.

Preparation.—The oil is obtained by first bruising the olives in a mill, and then submitting them to pressure. The product varies much, according to the state of the fruit, and the circumstances of the process.

Description.—The best oil, called *virgin oil*, is obtained from the fruit picked before it has arrived at perfect maturity, and immediately pressed. It is distinguished by its greenish hue. The common oil used for culinary purposes, and in the manufacture of the finest soaps, is procured from very ripe olives, or from the pulp of those which have yielded the virgin oil. In the latter case, the pulp is thrown into boiling water, and the oil removed as it rises to the surface. An inferior kind, employed in the arts, especially in the preparation of the coarser soaps, plasters, unguents, &c., is afforded by fruit which has been thrown into heaps, and allowed to ferment for several days, or by the *marc* left after the expression of the finer kinds of oil, broken up, exposed to the fermenting process, and again introduced into the press.

Olive-oil is imported in glass bottles, or in flasks surrounded by a peculiar kind of network made of grass, and usually called Florence flasks. The best comes from the south of France, where the most care is exercised in the selection of the fruit.

Properties.—The pure oil is an unctuous liquid, of a pale-yellow or greenish-yellow color, with scarcely any smell, and a bland, slightly sweetish taste. Its specific gravity is 0·9153. It is soluble in twice its volume of ether, but is only partially soluble in alcohol, at least unless this fluid be in very large proportion. It begins to congeal at 38° Fahr. At a freezing temperature, a part of it becomes solid, and the remainder, retaining the liquid consistence, may be separated by pressure, or by the agency of cold alcohol, which dissolves it.

Olive-oil is nutritious and mildly laxative, and is occasionally given in cases of irritable intestines, when the patient objects to more disagreeable medicines. Taken into the stomach in large quantities, it serves to involve acrid and poisonous substances, and mitigate their action. It has also been recommended as a remedy for worms, and is a very common ingredient in laxative enemata. Externally applied, it is useful in relaxing the skin, and sheathing irritated surfaces from the action of the air; and is much employed as a vehicle or diluent of more active substances.

Employment.—The most extensive use of olive-oil is in pharmacy, as a constituent of liniments, ointments, cerates, and plasters. The dose as a laxative is from one to two fluid ounces.

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GLYCERINE.

(Glycerina.)

This substance forms a base to the oleic, stearic, and margaric acids, of the fat oils and tallow, and is separated when these acids are made to combine with an alkali or any metallic oxyde in the saponification of the oils. Glycerine was discovered by Scheele, and Chevreul proved its exact composition and constitution.

Preparation.—Glycerine is obtained by heating together olive or other suitable oil, oxyde of lead, and water, as in the manufacture of the common lead-plaster: an insoluble salt of lead is formed, and the glycerine remains in the aqueous liquid. This is treated with sulphohydric acid, digested with animal charcoal, filtered, and evaporated *in vacuo* at the temperature of the atmospheric air.

Description.—In a pure state, glycerine forms a nearly colorless and very viscid liquid; specific gravity, 1·27. It has an intensely sweet taste, and mixes with water and alcohol in all proportions, but is insoluble in ether.

Properties.—Glycerine has been recently introduced by Dr. Startin, of England, as a new remedy for the cure of certain cutaneous diseases; and its usefulness is presumed to be most probably dependent upon its property of resisting evaporation even at a considerable temperature. A portion has been placed in a heated oven by the side of a piece of roasting meat, and undergone no evaporation when the meat was entirely cooked. When applied to the skin it remains moist, forming a coating or varnish, which is not distinguishable from the ordinary secretion of the part. A lotion composed of half an ounce to ten fluid ounces of water effectually prevents the skin from becoming dry. When employed in its pure state it makes the part stiff and uncomfortable, and consequently answers best diluted. It is also added with advantage to poultices, and even to baths. Dr. Startin speaks of its use chiefly in psoriasis, pityriasis, lepra, and ichthyosis, in all which diseases he describes it as producing excellent palliative effects.

Dr. T. H. Wakley, of London, has become noted for his success in the treatment of deafness by the use of this article, having commenced his experiments with it in 1848. "I have now," says he, "used the glycerine in upward of three hundred cases of deafness. On many occasions it has been employed without any advantage whatever. In other instances the benefit was considerable for a short time, and then disappeared. In numerous cases, however, by the use of it, the power of hearing has been completely restored. It was only after much experience in the application of glycerine, and from observing its action in a great number of cases, that it could be ascertained what were those conditions of the ear in which it was most likely to prove of advantage. Contrary to what might have been anticipated, the use of the remedy was successful in persons in whom the deafness had been of many years' duration—one, for example, thirty years; and also in cases where the existence of the malady could be traced to the eruptive fevers of childhood. In instances of deafness caused by inflammation, followed first by suppuration, and then by a horny, dry condition of the auditory canal, the application of glycercine has been attended with signal advantage. Equally marked and peculiar is the success when it is used in cases where there is a partial or total absence of ceruminous secretion. In many instances of deafness belonging to these classes of cases, the employment of glycerine has been followed by a perfect restoration of the power of hearing. In other examples of deafness, where the membrana tympana had evidently become thickened and hardened, and, on examination with the speculum, denoted a whitish or pearly appearance, the use of the glycerine was followed by strikingly beneficial and gratifying effects. It is evident, therefore, that the application of glycerine is equally admissible, whether the tympanum be in a sound state, or whether it has been destroyed by ulceration." Dr. Wakley's method is to apply it on cotton introduced into the ear.

As an agent in the cure of cutaneous affections, Dr. Durkee, of Boston, a gentleman devoted to diseases of the skin, has spoken very favorably of it.

PENNYROYAL-OIL.

(Oleum Hedeomæ.)

THE oil of pennyroyal *(Hedeoma pulegioides)*, No. 219, is obtained by distillation in the usual manner from the herb when in blossom.

Description.—It is of a pale-yellow color, and a specific gravity of 0·948. Its taste and smell resemble those of the mint tribes generally, though peculiar to this plant. Those that know the smell of the plant will readily distinguish it.

Properties and Uses.—This oil is much used in our practice as a rubefacient. It is an ingredient of most of the liniments and other preparations that are designed to act as excitants and counter-irritants on the surface, and is also employed internally as a stimulant, diaphoretic, and carminative. It may be either taken alone, dropped on sugar, or it may be worked into a pill mass, and thus formed into pills. In colic-pains, pain in the stomach, rheumatism, amenorrhœa, &c., it is of great value. To impart flavor to mixtures, and to correct the operations of nauseating and griping medicines, this oil is often resorted to. For this purpose, when given with rhubarb and other cathartics of like character, one or two drops are sufficient.

PEPPERMINT-OIL.

(Oleum Menthæ Piperitæ.)

THE peppermint plant *(Mentha piperita)*, No. 225, varies exceedingly in the quantity of oil which it affords. The product is generally less than one per cent. It is largely distilled in the United States.

Description.—This oil is of a greenish-yellow color or nearly colorless, but becomes reddish by age. Its odor is strong and aromatic; its taste warm, camphorous, and very pungent, but succeeded, when air is admitted into the mouth, by a sense of coolness. Its specific gravity is stated differently from 0·902 to 0·920; its boiling point at 365°. Upon long standing it deposites a stearoptene, which, according to Kane, has the same composition as the oil. Berzelius states that at 8° below zero the oil deposites small capillary crystals.

Properties.—The oil of peppermint, like the herb, is stimulating and carminative, and is much used in flatulence, nausea, spasmodic pains of the stomach and bowels, and as a corrigent or adjuvant of other medicines. It is most conveniently given rubbed up with sugar and then dissolved in water.

Employment.—The doses are from two to five drops on sugar or with the essence and other preparations. It is also a good rubefacient, and, from the cooling sensation it produces, is well adapted to relieve headache by applying it to the temples and forehead.

WATER.

Take Oil of Peppermint, 2 drams;
Proof Spirit, 7 fluid ounces;
Water, 2 gallons.—Mix, and distil one gallon.

Employed to relieve flatulent colic, but chiefly as a vehicle for medicines. Dose, from one to two ounces. Commonly, peppermint-water is made by dissolving a dram of the oil in two quarts of distilled water, by means of a little white sugar, spirit, or carbonate of magnesia; but it is far from being as good a preparation as the preceding.

ESSENCE.

Take Oil of Peppermint, 2 fluid ounces;
Alcohol, 1 pint.

Mix, and shake together until the oil is dissolved. This may be used in all cases in which the oil would be prescribed, as in flatulency, pain in the stomach, colic, &c.

SPIRITS.

Take Oil of Peppermint, by weight, half an ounce;
Rectified Spirit, 1 gallon;
Water, a sufficient quantity.

Mix, and with a slow fire distil one gallon. This is stimulant and carminative. The dose is from half a dram to a dram.

SUGAR.

Take Oil of Peppermint, 30 drops;
Powdered finest white Sugar, 1 ounce.

Mix and rub well together in a wedgewood mortar.

PEPPER-OIL.

(Oleum Piperis Nigri.)

The volatile oil of black pepper *(Piper nigra)*, No. 17, is limpid, colorless, becoming yellow by age, of a strong odor, and of a taste less acrid than that of the pepper. It consists of 10 equivalents of carbon, and 8 of hydrogen, and forms a liquid, but not a concrete compound, with muriatic acid. Its general properties are identical with the berry and its preparations.

PUMPKIN-OIL.

(Oleum Pepiæ.)

This is an expressed oil from the seeds of the common garden pumpkin *(Curcubita pepo)*, No. 323, and is sufficiently described under that article.

ROSE-OIL.

(Oleum Rosæ.)

This is generally known as the *attar*, *otto*, or *essence of roses*. It is prepared on a large scale in Egypt, Persia, Cashmere, India, and other countries of the East, by distilling the petals of the rose with water. The oil concretes and floats upon the surface of the water when it cools. The precise species of rose from which the oil is extracted is not in all instances certainly known; but it is said to be obtained from the *Rosa damascena* (No. 180) in northern India, and the *Rosa moschata* in Persia. It is furnished in very minute proportion; not more than three drams having been obtained by Colonel Polier, in Hindostan, from one hundred pounds of the petals. It is usually imported in small bottles, and is very costly.

Description.—Oil of roses is nearly colorless, or presents some shade of green, yellow, or red; but, according to Polier, the color is no criterion of its value. It is concrete below 80°, and becomes liquid between 84° and 86°. Its odor is very powerful and diffusive. At 90° its specific gravity is 0·832. It consists of two oils, one liquid, the other concrete at ordinary temperatures. These may be separated by freezing the oil, and compressing it between the folds of blotting-paper, which absorbs the liquid oil or eleoptene, and leaves the concrete or stearoptene. The latter consists exclusively of carbon and hydrogen; the former, of these and oxygen.

Properties and Uses.—Alcohol dissolves it, though not freely when cold. The oil is added, as a very grateful perfume, to various spirituous preparations for internal use, and to cerates and ointments. It is too expensive an article for general use. Laxative properties have been ascribed by some to the sirup, but they probably depend on the sugar which it contains.

Adulterations.—Sandal-wood oil, other volatile oils, fixed oils, spermaceti, &c., are said to be added as adulterations. The volatile additions may be detected by not being concrete; the fixed, by the greasy stain they leave on paper when heated.

ROSEMARY-OIL.

(Oleum Rosemarini.)

The fresh leaves of the rosemary *(Rosmarinus officinalis)*, No. 11, yield about one per cent. of oil by the usual process of distillation.

Description.—It is colorless, with an odor similar to that of the plant, though less agreeable. Its specific gravity is 0·911, but is reduced to 0·886 by rectification. It is soluble in all proportions in alcohol of 0·830; but requires for solution at 64°, forty parts of alcohol of the specific gravity 0·887. Kane gives its specific gravity 0·897, and its boiling point 365°. Kept in bottles imperfectly stopped, it deposites a stearoptene analogous to camphor, and sometimes amounting, according to Proust, to one tenth of the oil.

Properties and Uses.—This oil is possessed of stimulant properties, but is employed chiefly as an ingredient of rubefacient liniments. The dose is from three to six drops, but it is seldom administered internally.

Adulterations.—Oil of rosemary is often adulterated with oil of turpentine; the fraud may be detected by the odor when dropped on a heated spatula, or by its not being completely soluble in alcohol.

SPIRITS.

Take Oil of Rosemary, 2 drams;
Rectified Spirit, 1 gallon;
Water, 1 pint.

Mix, and with a slow fire distil the gallon. The dose is from ten to twenty drops, but it is seldom used internally.

RUE-OIL.

(*Oleum Rutæ.*)

THE medicinal qualities of the rue (*Ruta graveolens*), No. 156, depend chiefly on this volatile oil.

Description.—It is obtained by distilling the fresh herb with water, and is of a rich yellow color, becoming darker by age; it has the peculiar odor of the plant in a marked degree, and a bitter, acrid, warm taste; its specific gravity is 0·911.

Properties and Uses.—This oil is stimulant and supposed to be anti-spasmodic, and has been given in hysteria, convulsions, and amenorrhœa. The dose is from two to five drops.

SASSAFRAS-OIL.

(*Oleum Sassafras.*)

THE bark of the root of sassafras (*Laurus sassafras*), No. 142, is distilled to procure this oil.

Description.—The proportion of oil yielded is variously stated from less than one to somewhat more than two per cent. The oil is of a yellow color, becoming reddish by age. It has the fragrant odor of sassafras, with a warm, pungent, aromatic taste. It is among the heaviest of the volatile oils, having the specific gravity 1·094. According to Bonastre, it separates, by agitation with water, into two oils, one lighter and the other heavier than water. Berzelius states that the first is often nothing more than oil of turpentine existing as an adulteration in the oil of sassafras. Nitric acid colors it red, and fuming nitric acid inflames it more readily than most other oils.

Properties and Uses.—Oil of sassafras possesses the useful property of dissolving caoutchouc. When kept for a long time it deposites transparent crystals, having the same odor as the liquid oil. It is stimulant, carminative, and supposed to be diaphoretic; and may be employed for the same purposes with the bark from which it is derived. Dose, from two to ten drops.

SAVINE-OIL.

(*Oleum Sabinæ.*)

THE proportion of oil yielded by the tops and leaves of the savine (*Juniperus sabina*), No. 339, varies exceedingly, but perhaps an average under favorable circumstances may be about ten per cent.

Description.—Savine-oil is limpid and nearly colorless, having the odor of the plant, and a hot, acrid taste. It is isomeric with oil of turpentine; its density is 0·915, and its boiling point is 315°.

Properties and Uses.—According to Winckler, the oil of savine is converted by sulphuric acid into an oil not distinguishable from that of thyme. It is stimulant, emmenagogue, and actively rubefacient; and may be given for the same purposes as the plant in substance. It has been much employed as a domestic remedy in amenorrhœa; dose from two to five drops. It has also been given with a view to produce abortion, and in some instances with fatal effects.

SPEARMINT-OIL.

(Oleum Menthæ Viridis.)

This is a volatile oil distilled in the ordinary way from the herb spearmint *(Mentha viridis)*, No. 226, when in full bloom.

Description.—It is pale yellow or greenish when recently prepared, but becomes red with age, and ultimately almost of a mahogany color. Its flavor is analogous to that of the oil of peppermint, but is less agreeable and less pungent. Its specific gravity is stated differently from 0·914 to 0·975; its boiling point at 320°.

Properties and Uses.—This oil is employed in the same manner and for the same purposes as the oil of peppermint, but we think it more efficacious in removing nausea and stopping vomiting; and, as an ingredient in liniments and embrocations, it is far better.

SPIKE-OIL.

(Oleum Spica.)

The oil of spike is derived from the broad-leaved variety of lavender, not found in this country, but which grows wild in Europe, the *Lavandula spica* of De Candolle. Its odor is less fragrant than that of the common oil of lavender, and is somewhat analogous to that of oil of turpentine, with which it is said to be often adulterated. It is chiefly used in veterinary practice and in the composition of liniments, and is also much employed by artists in the preparation of varnishes.

SPURGE-OIL.

(Oleum Spurgiæ.)

This oil is obtained by simple pressure from the ripe seeds of the caper-spurge, 44 parts of oil being obtained from 100 parts of the seeds. It is very fluid, of a clear yellow color, with an acrid taste, and a peculiar odor. It is soluble in ether, but insoluble in alcohol.

Properties.—This article has been introduced into the pharmacopœia of Paris, as a cheap and efficient substitute for croton-oil. Calderini, an Italian physician has used it extensively: he says that its effect is certain and prompt, and that it may be considered as a mild cathartic, not producing either vomiting, colic, or tenesmus. It is adapted for all cases in which it is desirable to purge gently but effectually, and with a small dose of medicine. "This oil," says Neligan, "is worthy of more observation than has been hitherto bestowed on it, as being likely to afford an excellent indigenous cathartic."

Employment.—The dose is from four to eight drops, and may be administered in sirup. When applied externally, it possesses rubefacient properties similar to those of croton-oil.

TANSY-OIL.

(Oleum Tanaceti.)

This oil is prepared by distillation in the usual manner from the common tansy. It has a greenish-yellow color, with the flavor of the plant, is lighter than water, and deposites camphor upon standing. Its specific gravity is stated at 0·952.

Properties and Uses.—Tansy-oil is employed as a vermifuge, and for this purpose it is best administered in the form of essence. It possesses all the properties of the plant, and may be given in those cases where the former is indicated. It is sometimes used for the purpose of procuring abortion, but its action in this respect is very uncertain. A fatal case of poisoning with half an ounce of oil of tansy is recorded in the "Medical Magazine" for November, 1834. Frequent and violent clonic spasms were experienced, with much disturbance of respiration; and the action of the heart gradually became weaker, till death took place from its entire suspension. No inflammation of the stomach or bowels was discovered upon dissection.

TAR-OIL.

(Oleum Resina Pinus Palustris.)

This is an empyreumatic oil yielded in the process of distillation of the common tar, and it has been ascertained by Dr. Reichenbach, of Moravia, to contain, besides oil of turpentine, six distinct principles, which he has named PARAFFINE, EUPIONE, CREASOTE, PICAMAR, CAPNOMOR, and PITTACAL.

Properties and Uses.—The oil of tar contains considerable therapeutic powers. Externally it is an excellent counter-irritant in rheumatism and other painful affections. The chest and spine may be bathed with it in pulmonary diseases. Given internally, it produces even more benefit than the Harlæm oil, and it may be administered in all cases where that article is recommended. In chronic affections of the kidneys and bladder, flatulent colic, pain in the breast, consumptive complaints, difficulty of breathing, affections of the heart, flatulence, &c., it will be found very valuable.

Employment.—It may be given three or four times a day in a little sweetened milk.

TOBACCO-OIL.

(Oleum Tabacum.)

When distilled at a temperature above that of boiling water, tobacco affords an empyreumatic oil, which Mr. Brodie has proved to be a most virulent poison. A single drop injected into the rectum of a cat occasioned death in about five minutes; and double the quantity, administered in the same manner to a dog, was followed by the same result. This oil is of a dark-brown color, of an acrid taste, and has a very peculiar smell, exactly resembling that of tobacco-pipes which have been much used. It has been shown to contain Nicotia (which word is derived from Nicot, the French embassador at the court of Lisbon, who in the year 1560 introduced the use of tobacco into France, and whose name has been perpetuated in the generic title of the plant).

The volatile oil (Nicotianin) is probably the odorous principle of tobacco. Posselt and Reimann prepared it by distilling six pounds of the fresh leaves with twelve pounds of water, till one half of the liquid passed over, then adding six pounds more of water, and again distilling, and repeating this process three times. The nicotianin was obtained to the amount of eleven grains, floating on the surface of the water. It was a fatty substance, having the smell of tobacco-smoke, and an aromatic, somewhat bitter taste. It was volatilizable by heat, insoluble in water, soluble in alcohol and ether, and not affected by the dilute acids, but dissolved by the solution of potassa. This was not obtained by MM. Henry and Boutron. According to Landerer, it does not exist in the fresh leaves, but is generated in the drying process. It produces sneezing when applied to the nostrils, and a grain of it swallowed by Hermstadt occasioned giddiness and nausea.

Employment.—The empyreumatic oil of tobacco, mixed with simple ointment, in the proportion of twenty drops to the ounce, has been applied with advantage by some practitioners of this country to indolent tumors and ulcers; but, in consequence of its liability to be absorbed, and to produce unpleasant effects on the system, it should be used with great caution. This remark is applicable to all the modes of employing tobacco, particularly to the injection of the infusion into the rectum, which has in several instances caused the death of the patient. It is even more dangerous than a proportionate quantity introduced into the stomach; as, in the latter case, the poison is more apt to be rejected. A child eight years old was killed by the application of the expressed juice of the leaves to the head for the cure of tinea capitis.

TURPENTINE-OIL.

(Oleum Terebinthinæ.)

This oil is commonly called *spirits* or *spirit* of turpentine. It is prepared by distillation from our common turpentine, though equally afforded by other varieties. It may be distilled either with or without water; but in the latter case a much higher temperature is required, and the product is liable to be empyreumatic. To obtain it absolutely pure, it should be redistilled from a solution of caustic potassa. The following is from the Dublin college.

Preparation.—Take common turpentine, by weight five pounds; water, by measure four pounds: distil the oil from a copper alembic; yellow resin will remain after the distillation. This oil is further to be purified: take oil of turpentine, by measure two pounds; water, by measure four pounds; distil till one and a half pounds by measure of the oil be obtained.

Description.—Oil of turpentine is a transparent, colorless, limpid fluid, of a peculiar, penetrating, balsamic odor, and a pungent, bitter, disagreeable taste. Its specific gravity is ·872 at 50° Fahr. It is very soluble in ether, less so in alcohol, and very sparingly soluble in water. Exposed to the air it gradually absorbs oxygen, thickens, and becomes yellowish. It boils at 314°, and cooled down to —17° it deposites white crystals stearoptene, which are heavier than water. Oil of turpentine is very inflammable, burning with a heavy, yellowish flame, and much smoke; in chlorine gas it takes fire spontaneously. Large quantities of the oil are distilled in North Carolina for exportation.

Properties.—As the most effectual remedy we possess for the expulsion of tapeworm, oil of turpentine stands deservedly in high repute. It operates as a specific poison to the parasite, causing its immediate death, and afterward, in consequence of its cathartic properties, expelling it from the body. It has also been used with much benefit in the form of enema for ascarides in the rectum. Given in large doses it operates as an active cathartic; when administered alone, however, its action is uncertain, and consequently it is usually prescribed in combination with castor-oil. In this form it proves a most effectual purgative in obstinate constipation, especially when dependent on affections of the brain; in spasmodic diseases, as in chorea, hysteria, epilepsy, and tetanus; in sciatica and other neuralgic affections, in passive hemorrhages, and in purpura hemorrhagica; in the latter disease Neligan states that it has proved very successful administered in large doses.

Oil of turpentine is a speedy and effectual rubefacient, producing active inflammation, succeeded by a crop of small pimples, and sometimes minute blisters, when applied to the surface of the body. If it be applied warm, it acts more quickly and more powerfully. As a counter-irritant, it is very generally and beneficially employed in inflammatory attacks of the thoracic or abdominal viscera, in colic and peritonitis, in sore throat, in chronic rheumatism, in neuralgia, &c.

Administered in small but frequently repeated doses, oil of turpentine acts as a general stimulant to the system, and as such has been employed in the low stages of typhoid and common continued fevers, in chronic rheumatism, in neuralgia, in hemorrhages from the mucous surfaces dependent on an atonic state of the vessels, to facilitate the passage of biliary calculi, in sciatica, and to prevent the access of the fit in epilepsy. Made into an ointment with three parts of prepared lard, it is one of the most useful applications that can be made to the scalp in those forms of impetigo and eczema which admit of the use of stimulant appliances.

Injected into the veins of horses and dogs, oil of turpentine excites pneumonia. Two drams thrown into the veins of a horse, caused trembling, reeling, falling, inclination to pass urine and stools, and frequent micturition, with cough, until the eighth day, when putrid fever set in, resulting in death.

Employment.—As an anthelmintic, the dose for adults is from one half to two fluid ounces; for children, from one fluid dram to a fluid ounce. It may be given either floating on the surface of water, or made into an emulsion with mucilage, of which it requires equal portions, or with yolk of egg, one to every ounce. As a cathartic, the dose is from two fluid drams to two fluid ounces, given either by the mouth or in the form of enema.

LINIMENT.

Take Oil of Turpentine, 5 fluid ounces;
Resinous Ointment, 4 ounces;
Camphor, half an ounce.

Melt the ointment, and gradually mix with the oil and camphor till a uniform liniment be formed. This liniment is powerfully stimulating; it was first proposed by Kentish as an immediate dressing for extensive burns, particularly when the vital powers were sinking, and for this purpose it is employed with much advantage. The parts are first smeared with oil of turpentine, and pledgets of lint covered with this liniment are then applied. It is also used as a counter-irritant, applied with friction in rheumatic and neuralgic pains.

ST. JOHN LONG'S LINIMENT.

Take the yolk of one Egg;
Oil of Turpentine, 1 and a half fluid ounces;
Strong Acetic Acid, 1 fluid ounce;
Pure Water, 3 fluid ounces.

First rub the yolk of egg, the water, and the acetic acid, together, then add the oil of turpentine, and agitate the whole until they are well mixed. Or, take oil of turpentine and distilled vinegar, of each equal parts, with yolk of egg sufficient to make a uniform emulsion. This excellent counter-irritant liniment is applied by means of a sponge: its effects vary with the force which is used in rubbing, and with the length of time the application is continued. The principal objection to its use is its very disagreeable smell, which may be somewhat obviated, and its rubefacient powers at the same time rather increased, by the addition of a dram of oil of rosemary.

WINTERGREEN-OIL.

(Oleum Gaultheriæ.)

This article, commonly known as *oil of partridge-berry*, is a product of the United States, and is prepared chiefly in New Jersey. It is directed by the pharmacopœia to be prepared from the leaves of the *Gaultheria procumbens*, but the whole plant is usually employed. It has been obtained by Mr. Proctor, of Philadelphia, from the bark of the *Betula lenta*, and has been supposed to exist also in the root of the *Polygala paucifolia*, and the roots and stems of the *Spiræa ulmaria*, *Spiræa lobata*, and *Gaultheria hispidula*, which have its peculiar flavor.

Description.—The oil of wintergreen when freshly distilled is nearly colorless, but as found in the shops has a brownish-yellow or reddish color. It is of a sweetish, slightly pungent, peculiar taste, and a very agreeable characteristic odor, by which it may be readily distinguished from all other officinal oils. It is the heaviest of the known essential oils, having the specific gravity 1·173. Its boiling point is 412°. Its unusual weight affords a convenient test of its purity.

Properties and Uses.—Mr. Proctor proved this oil to possess acid properties, and to be closely analogous to *saliculous acid*, one of the results of the decomposition of salicin by sulphuric acid and bichromate of potassa, and an ingredient in the oil of *Spiræa ulmaria*. By M. Cahours it has since been shown to have the same composition as the saliculate of methylene; and a product having its properties was obtained by distilling a mixture of pyroxylic spirit, saliculic acid, and sulphuric acid. Wintergreen-oil is used chiefly on account of its pleasant flavor, to cover the taste of other medicines.

WORMSEED-OIL.

(Oleum Chenopodii.)

This oil is peculiar to the United States. It is of a light-yellow color when recently distilled, but becomes deeper yellow and even brownish by age. It has in a high degree the peculiar flavor of the plant. Its specific gravity is 0·908.

Properties and Uses.—Wormseed-oil is used as an anthelmintic, in the dose of from four to eight drops for a child, repeated morning and evening for three or four days, and then followed by a brisk cathartic.

PALM-OIL.

(Oleum Elaiæ.)

This highly valuable fixed oil is the product of the *Elais guiniensis*, a palm growing on the western coast of Africa, and cultivated in the West Indies and South America. It is among the handsomest trees of its graceful family which flourish in the tropical regions of Africa. The oil is obtained by expression from the fruit. It is brought to this country chiefly from Liberia and other places on the African coast, though prepared also in the West Indies, Cayenne, and Brazil. It is not improbable that various species of palms contribute to the supply of this article of commerce.

Description.—Palm-oil has the consistence of butter, a rich orange-yellow color, a sweetish taste, and an agreeable odor, compared by some to that of violets, by others to that of the Florentine orris. By age and exposure it becomes rancid and of a whitish color. It melts with the heat of the hand, and when perfectly fluid passes readily through blotting-paper. Highly-rectified alcohol dissolves it at common temperatures, and in ether it is soluble in all proportions.

Properties.—According to M. Henry, palm-oil consists of 31 parts of stearin and 69 of olein. But from the experiments of Frémy and Stenhouse, it appears that the stearin has peculiar properties entitling it to be considered as a distinct principle, and it has accordingly received the name of PALMITIN. This is converted into *palmitic acid* by saponification. It appears also that a considerable portion of this acid, together with some glycerine, exists uncombined in the oil, as ascertained by MM. Pelouze and Boudet; so that the changes which are effected in oils, through the agency of alkalies, in the process of saponification, take place, to a certain extent, spontaneously in palm-oil. Hence it is more easily saponified than any other fixed oil.

Employment.—It is much employed in the manufacture of a toilet-soap, which retains its pleasant odor. Palm-oil is emollient, and has sometimes been employed in friction or embrocation, though perhaps not superior for this purpose to many other oleaginous substances.

Adulterations.—Palm-oil is said to be frequently imitated by a mixture of lard and suet, colored with turmeric, and scented with Florentine orris.

ANIMAL OILS.

ANGLE-WORM OIL.

THIS is an exceedingly valuable oil, which is made by putting the common angle-worms into a bottle, and setting them in the sun in hot weather.

Employment.—It is one of the most valuable of relaxing liniments for shrunken cords and muscles.

BEAR'S-OIL.

BEAR'S-OIL is seldom found pure. It is a good article, in the dose of one fourth to a teaspoonful, for croup in children, and affections of the lungs, caused by cold, hoarseness, and difficulty of breathing.

COD-LIVER OIL.

(Oleum Jecoris Aselli.)

THIS is a fixed oil obtained from the liver of the common cod *(Morrhua vulgaris)* and other allied species, as the ling *(Gadus lota)*, the dorse *(Gadus callarias)*, the torsk *(Gadus brosma)*, &c.

Preparation.—Much of what is met with is imported from Newfoundland, where it is prepared by exposing the livers to the sun to putrefy, when the oil runs from them and is received in vessels placed underneath. Professor Donovan, of Dublin, recommends the following mode of preparation. The livers, perfectly sound and fresh, are to be placed in a clean iron pot over a slow fire, and stirred until they assume the consistence of a pulp, care being taken that the mass be not heated beyond 192°. When this temperature is attained the pot is to be removed from the fire, and its contents introduced into a canvass bag, through which water and oil will flow into a vessel beneath. After twenty-fours, the oil is to be decanted, and filtered through paper.

Description.—As prepared in the foregoing manner, the oil is pale yellow, with a bland, not disagreeable taste. As ordinarily found in the market, and employed for manufacturing purposes, it is brown, very offensive, and scarcely fit for internal use. On the continent of Europe, three or four varieties are distinguished, viz., the white, the yellow, the red, and the brown. It is possible that the color may sometimes depend upon the species of fish from which the oil is procured, but more commonly the difference arises from the degree of care used in the preparation. If the livers are putrid, or exposed to too great heat, or too strongly expressed, or if they were originally diseased or of bad quality, the oil is more or less inferior. That should be selected for medical use which is least offensive to the palate and nostrils.

Properties.—According to the analysis of M. Jough, cod-liver oil contains three peculiar principles, one of which has been named GADEINE, oleic and margaric acids, glycerine traces of butyric, acetic, fellinic, and cholinic acids, salts of soda, lime, and magnesia, some other unimportant substances, phosphoric acid, iodine, and chlorine, with a trace of bromine. It is to the presence of the iodine, the chlorine, and bromine, but more especially the phosphates, that its peculiar medicinal properties are due.

Cod-liver oil has been held as a popular remedy among the inhabitants of the seacoasts of northern Europe for many centuries. The virtues imputed to it have been both vague and various, but it has been generally esteemed as a remedy of unequivocal power in many chronic diseases. Among the fishermen of our own continent it has long been highly valued for its curative power in rheumatism and its analogous diseases. It first attracted the attention of some medical practitioners in 1771, when Dr. Percival used it with success in many cases of chronic rheumatism. Dr. Key, of Manchester, employed it extensively in hospital practice in 1789; and Dr. Bardsley, of

London, used it previous to 1807. But it was not until 1822 that the attention of the profession was particularly directed to it by any publication based upon numerous and authentic cases in which it had been employed. Dr. Schenks, of Germany, published in "Hufeland's Journal," of 1822–'26, a series of papers in favor of its curative powers, which has led to its gradual adoption as a remedy in that country. More recently it has been employed in Belgium, France, and Great Britain. Within the last four years it has been introduced into the practice of medicine in this country, and its employment appears to be increasing. Dr. M'Ruer, of Bangor, Maine, gives an interesting account of this article in the Boston "Medical Surgical and Journal," in which he relates cures from its use in various complaints.

This remedy has been employed in a great number of diseases, but it appears to be particularly useful in chronic rheumatism, in scrofulous abscesses and caries of the bones, in phthisis, in arthritis, in rickets, in strumous ophthalmia, and in obstinate cutaneous affections. "It is productive of very great benefit," says Neligan, "in the treatment of many forms of neuralgia; and it is unquestionably a most useful remedy in many cases of phthisis: indeed, it is stated by some practitioners to hold out the only hope of cure in this malady. I have employed cod-liver oil in the treatment of some cases of diabetes, in all with much benefit, and in one with complete success. In most of these diseases, its external application is beneficially combined with its internal use; and to prove successful, its administration must be persevered in for a very long period, in some instances even for years, and as large a quantity taken as the stomach will tolerate."

Employment.—The dose of this oil is from one half to a fluid ounce two or three times a day, and gradually increased to three or four ounces. It may be given made into an emulsion with a solution of potash and some aromatic water. But no matter how it is attempted to be disguised, it leaves a most disagreeable and permanent impression on the mouth and fauces, which, together with the time its administration must be persisted in, has prevented it from coming into more general use. Dr. Ure, of London, has recently suggested the adoption of cod-livers as a diet for patients who are recommended to take the oil; and in order to prevent the dissipation of the oil during the cooking, the livers should be suddenly immersed in boiling water, to which sufficient salt has been added to raise the boiling point to 220° Fahr. He states that he has used this diet himself without inconvenience, employing mashed potato as a vehicle for the oil, which exudes on cutting the liver. Copeland recommends the liver to be used as an article of diet, prepared in the following manner: the stomach of the fish is well washed, two parts filled with the fresh liver, and firmly tied at each end so as not to allow any of the oil to escape while being boiled. This is eaten *quite warm*, with a little salt and spice, in which state he says that it is very palatable. Dr. Bardsley found that most patients were disposed to get fat under the use of the oil.

The oil obtained from the liver of the ray (*Raia clavata* and *Raia batis*) is said to be richer in iodine, and at the same time less offensive, than the cod-liver oil. It is preferably employed in the north of France and Belgium.

EGG-OIL.

THIS oil is made by boiling fresh eggs very hard, and then enclosing them in a strong hempen bag and submitting them to considerable pressure; or it may be prepared by breaking a dozen eggs into a large frying-pan or spider which has been slightly greased with butter, then placing it over a moderate fire and simmering them until brown or crisped. Press out the oil, and preserve it in a well-corked vial, put by for use.

Employment.—Egg-oil is a superior remedy for sore nipples. Applied two or three times, it frequently effects a cure when all other means have failed.

HEN-OIL.

HEN-OIL should seldom, if ever, be used internally. Employed externally it is very relaxing. Rubbed upon the throat, in croup, it appears to loosen the phlegm, and frequently gives great relief; and applied to the bowels with friction, it is powerful as a preparatory parturient—too much so, if long continued. We may here remark that turkey-oil and goose-oil, which are sometimes employed, are nearly identical in their properties with that of the hen. Dr. Mattocks recommends the following preparation for females before confinement:—

RELAXING LINIMENT.

Take Hen-Oil, 2 ounces;
Olive-Oil, 2 ounces;
Crystallized Soap, pulverized, 1 dram;
Borax, pulverized, half a teaspoonful;
Alum, pulverized, half a teaspoonful;
Table-Salt, 2 teaspoonfuls.—Mix.

Keep it very warm, and agitate well for a long time till dissolved. "This liniment," says Dr. Mattocks, "rubbed upon the bowels and *labia pudendum* two or three times a day, from two to four weeks before confinement, produces a wonderful effect, causing a very easy and quick labor, with comparatively little pain, and leaves the mother in a condition that enables her to recover remarkably quick and well; or, to use a common expression, to have a 'good getting up.' Under its employment, labor would not ordinarily occupy a fourth of the time, and mothers would not suffer a tenth part of the pain they usually do. The only possible objection to its use that I can conceive of is, that frequently 'the child would be born before the doctor could arrive!' In those cases where it is desirable to induce labor at seven months, the free use of this liniment for a month or six weeks previous will contribute greatly to the desired effect, and frequently accomplish the object unaided. It is good also in some cases of irritation, engorgement, and hardness of the *cervix uteri.*"

NEATS-FOOT OIL.

(Oleum Bubulum.)

NEATS-FOOT OIL is obtained by boiling in water for a long time the feet of the ox, previously deprived of their hoof. The fat and oil which rise to the surface are removed, and introduced into a fresh portion of water heated nearly to the boiling point. The impurities having subsided, the oil is drawn off, and, if required to be very pure, is again introduced into water, which is kept for twenty-four hours sufficiently warm to enable the fat which is mixed with the oil to separate from it. The liquid being then allowed to cool, the fat concretes, and the oil is removed and strained, or filtered through layers of small fragments of charcoal free from powder.

Properties and Uses.—The oil is yellowish, and, when properly prepared, inodorous and of a bland taste. It thickens or congeals with great difficulty, and is therefore very useful for greasing machinery in order to prevent friction. It was introduced into the officinal catalogue of the United States pharmacopœia as an ingredient of the ointment of nitrate of mercury, but its use as a medical agent is not very extensive.

MINERAL OILS.

ROCK-OIL.

(Petroleum.)

PETROLEUM, or rock-oil, belongs to the class of native inflammable substances called *bitumens.* These are liquids or readily fusible solids, which emit, when heated, a peculiar smell, burn easily, and leave a very small carbonaceous residue. They are of two kinds—one liquid, called NAPHTHA; the other solid, denominated ASPHALTUM.

Description.—Naphtha is a transparent, yellowish-white, very light and inflammable limpid liquid, which is found abundantly in Persia. It consists exclusively of carbon and hydrogen. As oxygen does not enter into its composition, it may be advantageously employed for preserving potassium. During the formation of coal-gas, an *artificial naphtha* is obtained, which by rectification is rendered equally light and limpid with the natural substance. Thus purified, it was found, by Mr. James Syme, of Edinburgh, to possess the property of dissolving caoutchouc, and the solution has been usefully applied to the purpose of forming various surgical instruments of that material. This solution has also been employed, at the suggestion of

Mr. Mackintosh, of Glasgow, for rendering cloth and other fabrics waterproof. They are varnished with the solution on one side, and the varnished surfaces are applied to each other, and made to adhere by powerful pressure. Asphaltum is solid, black, dry, friable, and insoluble in alcohol. These two varieties of bitumen often exist in a state of mixture in nature. When the asphaltum predominates, it takes the name of *maltha*, or *mineral tar;* when the naphtha is in the largest proportion, it is called *petroleum.*

Petroleum is found principally at Amiano, in Italy; at Gabian, in France; upon the borders of the Caspian sea; near Rangoon, in the Birman empire; and in Barbadoes, Trinidad, and other West India islands. The wells of petroleum in Birmah are said to produce four hundred thousand hogsheads annually. The petroleum from Barbadoes is indicated as the officinal variety by the London and Dublin colleges. The kind is not specified by the Edinburgh college.

In the United States, petroleum is found in various localities, the principal of which are on the Kenhawa, in Virginia; near Scottsville, in Kentucky; in western Pennsylvania; on Duck creek, in Ohio; and on the shores of Seneca lake, in New York. That found in the latter locality is usually called in this country *Seneca-oil,* and similar varieties of petroleum from other native sources are known by the same name.

Properties.—Barbadoes petroleum is a black, nearly opaque, inflammable liquid, of the consistence of molasses, unctuous to the touch, and possessing a bituminous taste, and strong and tenacious odor. Its specific gravity varies from 0·730 to 0·878. When subjected to distillation it yields naphtha, and leaves a solid residue of asphaltum. It is little affected by alcohol, acids, or alkalies, but dissolves in ether and in the fixed and volatile oils. It consists chiefly of carbon and hydrogen, associated with a little nitrogen and oxygen. Rangoon petroleum has a dark reddish-black color, a strong, rather fragrant odor, and the consistence of lard in summer. When heated to 90°, it becomes a reddish-brown very mobile liquid. Dr. Christison obtained from it by distillation, first, a large quantity of naphtha, and afterward a crystalline principle, which he ascertained to be identical with PARAFFIN. In the naphtha, Dr. Gregory subsequently discovered EUPIONE. It is probable that this petroleum is more active than the Barbadoes.

Employment.—Petroleum is accounted a stimulating anti-spasmodic and sudorific. It is occasionally given in disorders of the chest, when unattended with inflammation. In Germany it has been extolled as a remedy for tapeworm. Schwarts's formula in such cases was a mixture of one part of petroleum with one and a half parts of tincture of asafœtida, forty drops being given three times a day. Externally, petroleum is employed as a stimulating embrocation in chilblains, chronic rheumatism, affections of the joints, and paralysis. It is an ingredient in the popular remedy called *British oil.* The dose of petroleum is from thirty drops to a small teaspoonful, given in any convenient vehicle.

COMPOUND OILS.

THE earlier physicians and pharmaceutists were rich in compound oils, made by infusion and decoction, the virtues of which were highly vaunted at the time. The most of them have long since gone out of use, but this circumstance, as we have seen in many instances, is no evidence of their want of efficacy. I introduce a few of them here from our old friend Culpepper, which may prove interesting as matters of curiosity, if nothing more.

"Oleum Castinum.

"Take of the roots of bitter *Castus*, two ounces; cassia lignea, one ounce; the tops of marjoram, eight ounces: being bruised, steep two days in twelve ounces of sweet white wine; then with three pounds of salad-oil washed in white wine, boil it in *Baleneo Mariæ* till the wine be consumed. It heats, opens obstructions, strengthens the nerves and all nervous parts, as muscles, tendons, ligaments, the ventricle; besides these, it strengthens the liver, it keeps the hair from turning gray, and gives a good color to the body. I pray you take notice that this and the following oils (till I give you fair warning to the contrary) are not made to eat!"

"Blessed Oil.

"Take of the roots of the cardus and valerian, of each one ounce; the flowers of johnswort, two ounces; wheat, one ounce and a half; old oil, four ounces; Cyprus turpentine, eight ounces; frankincense in powder, two ounces. Infuse the roots and flowers, being bruised, in so much white wine as is sufficient to cover them. After two days' infusion, put in the oil with the wheat, bruised; boil together till the wine be consumed, then add the frankincense and turpentine; then boil them a little, and keep it. It is appropriated to cleanse and consolidate wounds, especially in the head."

"Oil of Swallows.

"Take of whole swallows, sixteen; chamomile, rue, plantain the greater and lesser, bay-leaves, pennyroyal, dill, hyssop, rosemary, sage, St. Johnswort, costmary, of each one handful; common oil, four pounds; Spanish wine, one pound: make it up according to art. This is appropriated to old bruises, and pains thereof coming, as also to sprains."

"Oil of Exeter.

"Take of the leaves of wormwood, centaury the less, eupatorium, fennel, hyssop, bays, marjoram, bawm, nep, pennyroyal, savine, sage, thyme, of each four ounces; southernwood, betony, chamepitys, lavender, of each six ounces; rosemary, one pound; the flowers of chamomile, broom, white lilies, elders, the seeds of cummin and fennugreek, the roots of hellebore black and white, four ounces; oil, sixteen pounds; wine, three pounds: infuse twelve hours... Many people by catching bruises when they are young, come to feel it when they are old; others, by catching cold, catch a lameness in their limbs: to both which I commend this sovereign oil to bathe their grieved members with."

EXTRACTS.

INTRODUCTORY REMARKS.

One of the objects of my visit abroad was, to obtain the active principles of vegetables in a concentrated form, as there has ever been an objection among our class of physicians in giving large quantities of medicine in such a bulk, when it might and ought to be prepared and administered, not in homœopathic doses, which make little or no impression on the system, but in a form occupying but little space, and in a manner very pleasant and agreeable to the patient. This object is fulfilled in a few of the alkaloids containing the proximate or active principles of vegetables; but on these we can not generally rely, as in preparing them we lose some portion of their original ingredients. Among all the forms of procuring the entire virtues of plants, roots, barks, &c., I prefer that of pure extracts, prepared with little or no heat. Most of those which have hitherto been prepared are objectionable. First, water alone is used, which extracts only those principles which are soluble in this element; for those properties of the resins and oils are not retained; besides, the high degree of temperature made use of, evaporates the active principle of the ingredients employed, as this phenomenon takes places at a certain point of heat. Therefore we do not obtain, in this manner, all the active matter of the articles we wish to prescribe.

The next best extract is the alcoholic, which consists in making a tincture of the ingredient, and then evaporating it at a necessary temperature, which is not required to be so high as that for watery extracts. But even in this manner we can not expect to retain the proportions of the component parts of the vegetable used. For instance, the volatile oils escape, and the temperature by which they are evaporated may destroy or impair some other ingredient.

In my researches abroad, then, as before intimated, I have kept this object in view, for the improvement of this branch of pharmacy. In Germany, I found that, although the medicines are prepared with great care, there is no superiority in them over those of other countries. In Paris, where chemistry is carried to the highest degree of perfection, occasionally a pharmaceutist is found who has made great improvements in the preparation of extracts: for instance, the late Pelletier, whose alcoholic extracts are very superior. In London, I found that extracts have generally been prepared in the ordinary manner.

I now have the pleasure to announce that in the latter city I found one chemist of high reputation belonging to that great institution, the college of pharmacy, which I visited, and am happy to state that it is the most extensive and magnificent school of the kind in Europe.* Here may be seen a beautiful museum of all the plants in the materia medica from every quarter of the globe. After examining this, I was conducted to the laboratory, where I saw a large number of students preparing different compounds. Lectures here are regularly given by the distinguished professors attached to the institution, one of whom is the celebrated Pereira. It is to this school that we are indebted instrumentally for the discovery of preparing in the best manner the vegetable medicinal extracts of pure quality and uniformity of strength. I allude to the method of Mr. Hooper, who has so extensively and perseveringly investigated this subject. He has made great sacrifices, and has been a long time engaged in prosecuting his inquiries, the result of which he has given to the world. Mr. Hooper, on learning that I was from America, in pursuit of information on the subject, took all possible pains to communicate to me everything in his power with reference to that object. He invited me to inspect his laboratory, and said to me that I was the first physician to whom he had ever granted the favor; he also gave me the privilege of taking a drawing of his machinery, of which I availed myself, and employed an artist for that purpose, one or two sketches of which I herewith subjoin, with illustrations and explanations, as given by Mr. Hooper himself.

The result of my inquiry on this subject is, that I consider extracts prepared after Mr. Hooper's method preferable to all others, as they contain the properties of the plants in a natural and concentrated form, without deterioration; and that the spirituous and alcoholic extracts, evaporated at a low temperature, are, next to these, the best.

The following paper on the preparation of extracts, by spontaneous evaporation, was presented by Mr. Hooper to the Pharmaceutical Society of London, and read at one of their meetings:—

"I have read with much pleasure, in some of the numbers of the 'Pharmaceutical Journal,' the different opinions that have been published on the preparations of vegetable extracts, to which subject I have devoted some attention. This class of medicines has, on more than one occasion, been brought before the society, and excited some degree of interest; but neither at the meetings, nor in any of the papers which have appeared in the 'Journal,' have I found the information sufficiently satisfactory for practical purposes.

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* During my stay in London I also visited the celebrated pharmaceutical establishment of Herring & Company, founded for the purpose of affording genuine medicine to the profession. Twenty tons of the fresh roots and leaves of taraxacum are here used in one season: they are submitted to hydraulic pressure, and the juice made into extract. I likewise visited the famous "Apothecaries' Hall," and was shown over the establishment. Here I saw the acetous extract of colchicum, a very excellent article, which is now given for gout and rheumatic affections, and is considered superior to any other preparation of the root.

"Although it is generally admitted that these preparations are the most varying, imperfect, and uncertain medicines, ordered in the pharmacopœia, yet there are few, if any, which are more frequently prescribed. On comparing different samples of an extract, professedly prepared in a similar manner, so great a difference is often observable in their strength and other physical characters, that it could scarcely be credited that they were prepared from the same plant. I therefore think it particularly desirable to adopt a more uniform and definite method of preparation.

"It is, I presume, generally known that some druggists have succeeded in preparing finer extracts when deviating from the *Pharmacopœia Londinensis*, 1836; and it is to be regretted that those who have found the advantage of adopting these variations should withhold the details of their process from the profession: and here it must be understood that I consider any one deviation from the pharmacopœia highly censurable, unless sufficient reason can he assigned to justify the operator in so doing.

"In Dr. Houlton's valuable paper on extracts, in the 'Pharmaceutical Journal' (No. ix., page 490), he gives good practical reasons for preparing them at a low temperature; also in a paper, which contains much information on *Taraxacum* (quoted in No. viii., page 421), he speaks favorably of the conversion of the expressed juice into an extract by spontaneous evaporation.

"According to the directions for making extracts in the London pharmacopœia, the leaves of the fresh plants are to be sprinkled with a little water; and boiling water is to be poured on the recent roots, which are to be macerated twenty-four hours, after which a decoction is to be made, and evaporated at a boiling temperature. I am inclined to doubt the expediency of this method, for the following reasons:—

"1. By sprinkling water on the leaves, the amount of fluid to be evaporated is increased; as the water, as well as the juice, must be got rid of by evaporation.

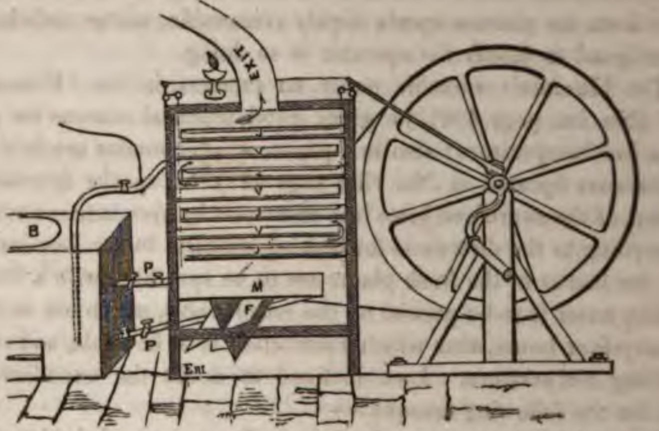
"2. The maceration accelerates acetous fermentation.

"3. The boiling temperature tends to destroy or impair the proximate principles of the plants.

"I have tried many arrangements and various temperatures, and am convinced that by inspissating the expressed juice by a current of dry air, extracts may be produced of a more uniform character than those in ordinary use, and that their quality is far superior.

"Medical men sometimes inquire what is the dose of extracts thus prepared. My answer is, the dose is the same as that for the pharmacopœial preparation, because I believe this to be estimated with reference to the preparation in its most perfect state, and consequently the extracts prepared by the above process come up to the *intentions* of the college, while those in ordinary use do not. Take, for instance, *extractum taraxaci*, made according to the pharmacopœia, and a similar quantity made by inspissating the juice by a current of dry air, and I feel persuaded that there would be no difficulty in deciding which extract corresponds in effect with the dose ordered in the pharmacopœia. I have the opinion of many eminent men in favor of that as well as other extracts, when prepared by spontaneous evaporation.

"The process is generally considered tedious, but I have adopted an arrangement which is simple in its construction and easily managed, and which possesses these advantages: 1. It augments the current of air by which evaporation is promoted. 2. The moisture as it escapes is absorbed by oil of vitriol placed in trays alternately with those containing the juice. 3. By moderately warming the current of air, and keeping the shelves in constant motion, the evaporation is further expedited. But in warm weather the application of artificial heat is not required.



HOOPER'S APPARATUS FOR EXTRACTING BY SPONTANEOUS EVAPORATION.

V. Vitriol.—*J.* Juice.—*Ent.* The place where the air enters.—*Exit.* The place for the air to make its exit.—*P P.* Pipes connecting the metallic vessel with the boiler.—*M.* Metallic vessel.—*B.* Boiler. *F.* Fan.

"In order to render the description explicit, I subjoin a drawing of the apparatus—which consists of an air-tight cupboard, furnished with shelves, so fixed as to be air-tight at each alternate end, while at the opposite end of each shelf an open space is left, through which the current of air passes. This space is equal to the distance between the shelves, namely, about three inches. The juice and the oil of vitriol are placed on the alternate shelves, the former in flat dishes, the latter in leaden vessels. Under the lowest shelf is a flat metallic vessel, connected with a boiler by a pipe, with stop-cocks for drawing off the water, if required, &c. Under this vessel is a fan revolving with great rapidity by means of a fly-wheel, and propelling the air both under and over the metallic vessel, and over the series of vessels on the shelves to the top of the apparatus, where a pipe is fixed for conveying the air into a chimney. A lamp is placed under this pipe for the purpose of rarefying the air. To a crank in the spindle of the fly-wheel is attached an iron rod, which communicates with the series of shelves, elevating and depressing alternately each end, so as to keep the shelves constantly in motion, by which the evaporation of the oils is promoted. By the application of this system, I find that I can evaporate six quarts (imperial) of vegetable juice to the consistence of an extract in from nine to twelve hours.

"I have found a similar apparatus to answer, beyond my expectations, for drying fresh leaves, recent roots, acids, alkalies, and their salts."

Mr. Hooper, in reply to a remark made by Mr. Squire on the average quantity of extract produced from a pint of juice, states that instead of their producing, on an average, but one twentieth part of extract, they produce from one fourth to one tenth. Dr. Hocken observed at a meeting of the Pharmaceutical Society that Mr. Hooper's apparatus was ingenious in idea, and effective in preparation. "A thin strata of juice is kept in constant agitation, and subjected to a rapid current of air kept constantly dry by sulphuric acid. The elegant extract thus produced is much superior in effect to any I ever met with elsewhere."

Dr. Rigby, lecturer at St. Bartholomew's hospital, London, thus speaks of the above mode of preparing extracts: "I have been for some time in the habit of prescribing the extract of taraxacum, as prepared by Mr. Hooper, and find it very superior to the article in common use. His extracts of conium, hyosciamus, and rhubarb, are the best I have yet seen: they retain the original smell of the drug to a far greater extent than those made in the ordinary way, and appear to be considerably more efficacious."

Dr. Allen, a surgeon of Epsom, writes to Mr. Hooper as follows: "Your extract of taraxacum, when mixed with distilled water, displays the same milky appearance which it had in the state of fresh juice. In doses of from thirty to forty grains, three times a day, it has been followed by a free secretion of bile from a liver which had long been in a very torpid and almost palsied state, and had not been moved by other means, including taraxacum procured elsewhere."

The following extract of a letter from John Dickson, Esq., of Ayton, is conclusive as to the superiority of Mr. Hooper's method of preparing extracts: "I was advised by Dr. Prout, in February last, to use your extract of taraxacum, and I have taken it nearly up to the present time (May) in such quantities as the doctor prescribed; and I am happy to inform you that its effects have been highly satisfactory. I had previously taken taraxacum for some time, when it greatly nauseated my stomach without my receiving any benefit: your extract, on the contrary, has had quite a different effect, for it has evidently improved the tone of the stomach, and has decidedly strengthened its powers of digestion. It appears to act favorably on the liver, and has almost rendered it unnecessary for me to employ aperient medicines; for ever since I took it, my bowels have been in a natural state and entirely free from costiveness, with which I was formerly much annoyed. On the whole, I think I never used a medicine that I found so beneficial."

ACONITE.

(Aconitum Napellus.)

Preparation.—Our preparation of the extracts of all vegetables is essentially the same. The most objectionable form is the usual manner of boiling the plants in water or diluted spirits; the most preferable is the method of evaporating the juices of the fresh plant by Mr. Hooper's plan; and the most convenient, under ordinary circumstances, is to make a strong saturated tincture of the roots and herbs, and evaporating this by Mr. Hooper's or any other mode where you can maintain the necessary low temperature. I recommend the last, because we can always make them ourselves at any season of the year.

Description.—When properly prepared, this extract has a yellowish color, with a disagreeable narcotic odor, and the acrid taste of the plant.

Properties.—The properties of this extract are narcotic and styptic.

Employment.—The extract of aconite may be given in the dose of one or two grains; but a safer plan is to begin with half a grain night and morning, to be gradually increased till the system is affected. Twenty grains or more have been given in the course of a day.

ALOES.

(Aloe Hepaticæ.)

Preparation.—Take of aloes, in powder, fifteen ounces; boiling water, a gallon, imperial measure. Macerate for three days with a gentle heat; then strain the liquor, and set it by, that the dregs may subside. Pour off the clear liquor, and evaporate to a proper consistence.

Properties.—The active principle of aloes is cathartic.

Employment.—The object of this process is to separate from aloes the resinous matter, the *apothême* of Berzelius, which is supposed to irritate the bowels, without possessing purgative properties; but the truth appears to be, that, when deprived of a small proportion of adhering extractive, it is quite inert. It can not, therefore, injuriously affect the virtues of the medicine; and as it exists in comparatively small proportion, and during the process a part of the extractive becomes insoluble, the preparation may be considered as at best unnecessary. The dose of the purified aloes is from five to fifteen grains.

BELLADONNA.

(Atropa Belladonna.)

Preparation.—This is prepared from the fresh leaves of the *Atropa belladonna* in the manner directed for the extract of aconite.

Description.—Mr. Brande states that one hundred pounds of fresh belladonna yields from four to six pounds of extract. According to M. Recluz, nearly ten parts may be obtained from one hundred. The extract of belladonna employed in this country is brought chiefly from England. It has usually a dark-brown color, a slightly narcotic not unpleasant odor, a bitterish taste, and a soft consistence which it long retains. ASPARAGIN has been found in this extract.

Properties.—Its medical properties and uses have been detailed under the head of BELLADONNA. In relation, however, to its local employment, it may be proper to add to what we have already stated, that it is recommended in cases of protracted labor depending on rigidity of the *os uteri.* The extract, mixed with simple ointment, in the proportion of two drams to an ounce, is applied at intervals directly to the neck of the uterus. With a similar view of producing relaxation, it has been employed locally in spasm of the urethra and painful constriction of the rectum; but care is requisite not to introduce it too freely into the bowel. It is often advantageously employed, in the shape of plaster or ointment, in local pains of a neuralgic or rheumatic character. The general principles of this article are powerfully narcotic and anodyne.

Employment.—The dose of the extract is uncertain, on account of its exceedingly variable strength. The best plan is to begin with one quarter or one half a grain, repeated two or three times a day, and gradually to increase the dose until the effects of the medicine are experienced. To a child two years old not more than one twelfth of a grain should be administered at first.

BITTER-ROOT.

(Apocynum Cannabinum.)

Preparation.—This extract is prepared after the manner of the preceding.

Properties.—The active principles of bitter-root are tonic, diuretic, and deobstruent.

Employment.—It is a fine article, combining all the active principles of the root, and its employment is indicated under the original article of the plant.

BITTERSWEET.

(Solanum Dulcamara.)

Description.—This has been newly introduced into this country; although a preparation well known on the continent of Europe, it is but little used in either this country or Great Britain.

Properties.—This extract is used for the general purposes and possesses the same properties as the plant, which are deobstruent, herpetic, and narcotic.

Employment.—The dose is from five to ten grains, but much more may be given with impunity.

BLOOD-ROOT.

(Sanguinaria Canadensis.)

Description.—This is a beautiful red extract, possessing all the virtues of the root, and its use is indicated under the plant.

Properties.—Its active principles are deobstruent and diuretic.

BUTTERNUT.

(Juglans Cineria.)

Preparation.—This extract should always be prepared from the inner bark of the root, gathered in May or June.

Description and Properties.—The extract of butternut is of a black color, sweetish odor, and bitter, astringent taste. In the dose of twenty or thirty grains it acts as a mild cathartic.

CHAMOMILE.

(Anthemis Nobilis.)

Description.—This extract has a deep-brown color, and the bitter taste of chamomile. It possesses the peculiar virtues of the flowers, and is simply a mild bitter, which may be advantageously combined with laxatives in debilitated states of the digestive organs.

Properties.—The character of this article is that of an excellent tonic and stomachic.

Employment.—The dose is from ten to twenty grains, in pills.

CICUTA.

(Conium Maculatum.)

This is prepared similarly to the extract of aconite. That imported from London is usually the best. The activity of any specimen of the extract may be judged of by rubbing it with potassa, which, disengaging the CONIA and rendering it volatile, gives rise to the peculiar odor of that principle. If no odor be evolved under these circumstances, the extract may be deemed inert.

Description.—Extract of hemlock should have a fresh olive color, a strong narcotic somewhat fetid odor, and a bitterish saline taste. According to Brande, from three to five pounds are obtained from one hundred weight of the leaves.

Properties.—Of the medical properties and application of this extract we have spoken under the head of CICUTA. Its active principles are narcotic and deobstruent.

Employment.—The dose is three grains twice a day, to be gradually increased till evidences of its action upon the system are afforded. It may be administered in pill or solution.

DANDELION.

(Leontodon Taraxacum.)

Description.—This may be made of the whole plant, but that prepared from the roots alone is undoubtedly the best. It should be gathered in August, and afterward, until severe frost. According to Mr. Squire, frost has the effect of diminishing the bitterness and increasing the sweetness of the growing root. The expressed juice yields from 11 to 25 per cent. of extract, the greatest product being obtained in November, and the least in April and May.

Properties.—Its general character is tonic, deobstruent, and diuretic.

Employment.—This extract deteriorates by keeping, and should therefore be renewed annually. Having all the best qualities of the root, this is the best form of its administration. It is most conveniently given dissolved in cinnamon or mint water. The dose is from a scruple to a dram three times a day.

FOXGLOVE.

(Digitalis Purpurea.)

Description.—This extract is best made from the fresh green leaves. Its preparation requires very great care and attention, or the virtues may be impaired by the process. Although long used, it is a new preparation of the London and Edinburgh colleges, and appears to us, considering the activity of the leaves themselves, and the at least equal uncertainty of the extract, to be quite superfluous.

Properties.—The active principles of foxglove are narcotic and diuretic.

Employment.—The doses are from half a grain to a grain, and increased very cautiously.

GENTIAN.

(Gentiana Lutea.)

Description.—This is made from the powdered root, and is frequently used as a tonic in the form of pill, either alone or in connexion with metallic preparations, or as a vehicle for the exhibition of chalybeates.

Properties.—The extract of gentian is tonic and stomachic.

Employment.—The usual dose is from ten to thirty grains, in the form of pills. It enters into the *Anti-Dyspeptic Pills.*

WHITE HELLEBORE.

(Veratrum Viride.)

Description.—The powdered root is used in its preparation. One ounce of this extract, mixed with the same quantity of myrrh, and with ten scruples of the powdered leaves of the *Centaurea benedicta*, and made into pills of one grain each, constitutes the preparation known as the *tonic pills of Bacher*, formerly much used in amenorrhœa and dropsy, and probably not without advantage, especially in the former of these diseases.

Properties.—The general character of hellebore is narcotic and acrid.

Employment.—The dose is from ten to twenty of the foregoing pills during the day.

HENBANE.

(Hyosciamus Niger.)

THIS extract is prepared from the leaves of the black henbane, either fresh or very recently dried. The finest and most reliable that physicians now use are derived from England and France.

Description.—The extract, as it reaches us, is of a dark-olive color, almost black, of a narcotic rather unpleasant odor, and a bitterish, nauseous, slightly saline taste. It retains its softness for a long time; but at the end of three or four years becomes dry, and exhibits, when broken, small crystals of nitrate of potassa and chloride of sodium.

Properties.—It is narcotic, anodyne, and nervine, and fulfils all the indications for which the herb is used.

Employment.—It is usually given in pill. It is sometimes used externally for the same purposes as extract of belladonna. The alcoholic extract of henbane is one of the preparations of the French Codex. The dose is one or two grains, to be gradually increased until its effects are obtained.

HOPS.

(Humulus Lupulus.)

SINCE the discovery of the fact that the active properties of hops reside chiefly in the LUPULINE, this extract has not been deemed an eligible preparation, and has been little used. It has the peculiar bitterness of the strobiles, without their aroma. Lupuline may be advantageously substituted for it in all cases in which it was formerly employed.

Employment.—The doses may be varied according to circumstances from ten to thirty grains; its operation on the system being, like that of lupuline, narcotic, anodyne, tonic, &c.

JALAP.

(Ipomea Jalapæ.)

Description.—The extract of jalap is of a dark-brown color, slightly translucent at the edges, and tenacious when not perfectly dry. It contains the resin and gummy extractive, and consequently has all the medicinal properties of the root; but it is not often exhibited alone, being chiefly used as an ingredient in purgative pills, for which it is adapted by the comparative smallness of its bulk, its general properties being principally cathartic, diuretic, anti-bilious, &c., but reference had better be made to our article on the plant itself, No. 51.

LETTUCE.

(Lactuca Elongata.)

THE claims of the extract of lettuce to favorable notice are at least questionable. Consisting chiefly of the common sap of the plant, which is inert, with a variable but always small proportion of the milky secretion, on which the activity of lettuce depends, it is at best a feeble and uncertain preparation. LACTUCARIUM possesses all its virtues, with more strength and uniformity of action. It is an excellent substitute for opium.

Properties.—Its properties are viewed as anodyne and diuretic. It is administered in doses of from five to fifteen grains.

LOBELIA.

(Lobelia Inflata.)

Description.—Prepared by our method, the extract of lobelia is an elegant article, and is pre-eminently calculated to fulfil all the intentions sought for in the vast number of cases to which it is at this day applied.

Properties.—This article is well known as a good emetic, expectorant, and sudorific, and that made by our method will be much sought for.

LOGWOOD.

(Hæmatoxyli Campechiani.)

Description.—This extract is of a deep-ruby color, and an astringent, sweetish taste; and possesses all the medical virtues of the wood from which it is procured. If given in pills, these should be recently made, as, when long kept, they are said to become so hard as sometimes to pass unchanged through the bowels.

Employment.—This article is best administered in solution. The dose is from ten to thirty grains. It is said to be largely prepared in Yucatan and other parts of Mexico. The extract, combined with pulverized opium, I found a very valuable remedy in dysentery.

MANDRAKE.

(Podophyllum Peltatum.)

THIS article is made from the roots of the mandrake. As mentioned under that head, No. 193, this extract is a good substitute for the jalap, as it stimulates the muciferous glands and exhalents, and occasions watery discharges. It has an advantage over the powdered root in administration, by being given in smaller bulk.

Properties.—It retains all the active principles of the root, being an efficient and safe cathartic, diuretic, and possessing anti-bilious properties.

Employment.—This extract is given in bilious and intermittent fevers, but an overdose is to be avoided, as it would be apt to occasion tormina and tenesmus, and hypercatharsis, with muco-bloody discharges; it also nauseates the stomach and induces emesis. The most general doses given are from five to fifteen grains.

NUX-VOMICA.

(*Strychnos Nux-Vomica.*)

In the year 1809, Magendie discovered that one entire class of vegetables (the bitter strychnos) has the power of exciting the spinal marrow without implicating, except indirectly, the functions of the brain. Since then, many have confirmed the observations of Magendie, and have attended especially to its agency in various diseases. The preparation of the strychnos most used, if we except the active principle, has been the alcoholic extract of the nux vomica.

Properties and Effects.—Magendie says that a grain of this extract, absorbed from any part of the body, or mixed with food, promptly destroys a dog of considerable size, by inducing paroxysms of tetanus, which, by their continuance, arrest respiration sufficiently long to induce complete asphyxia. When the dose is much stronger, the animal appears to die entirely from the action of the nux vomica on the nervous system.

The action of the extract on a healthy man is the same as that described by Magendie, and if the dose be sufficiently large, death speedily follows with the same symptoms. In those that are affected with paralysis, the effect is the same; but what is singular, it is particularly manifested on the paralyzed parts by tetanic convulsions, and a feeling of creeping, which indicate the operation of the remedy: a local perspiration is also observed to break out on some parts of the body. We refer the reader to our remarks on the plant, and on the article STRYCHNIA.

Employment.—The best form for administering the extract of nux vomica is in pill, when we are desirous of inducing the tetanic convulsions. Each pill may contain a grain. One or two pills may be given at first, and the dose be daily augmented until the required effect is induced, and then be discontinued to avoid accidents. It is better to give the pills in the evening, as night is the most favorable time for observing the phenomena we are desirous of inducing. It is recommended in paralysis.

POPPY.

(*Papaver Somniferum.*)

MR. BRANDE observes in relation to this extract, that if prepared over the open fire it is often nearly inert. He states, moreover, that it is apt to be of a troublesome consistence, too hard to be formed into pills, and too tough to be pulverized; and advises that it should always be carefully dried till it becomes sufficiently brittle to admit of being reduced to powder. One hundred weight of the capsules, without the seeds, yields, according to this author, the average product of thirty-five pounds of extract.

Properties.—It is supposed to have deobstruent, stimulant, and diuretic properties. This preparation is little used in the United States. It possesses the virtues of opium, but is much inferior and less uniform in strength. The dose is from five to ten grains. A reference to our article on *Papaver somniferum* will be advisable.

QUASSIA.

(Quassia Excelsa.)

According to M. Recluz, sixteen ounces of quassia yield by infusion in water seven drams of extract; by maceration in alcohol of 19° Baumé, two ounces five and a half drams. The difference between these quantities is so great, that we suspect some mistake in the authority from which we quote.

Description.—The extract of quassia is dark-brown or black, and excessively bitter. It is apt to become dry and disposed to crumble by time.

Properties.—This article concentrates a greater amount of tonic power within a given weight than any other extract of the simple bitters, and may therefore be given with great advantage in cases in which it is desirable to administer this class of substances in as small a bulk and with as little inconvenience to the patient as possible. The dose is about five grains, to be given in the form of pill.

RHATANY.

(Krameria Triandra.)

Rhatany is a plant discovered by Ruiz and Pavon, in 1779, in South America. It was introduced to notice in England, as a medicine, by Dr. Reece, in 1808. The root is the officinal part.

Properties.—The extract of *Krameria triandra*, when carefully made, is gently tonic and powerfully astringent; and may be advantageously given in chronic diarrhœa, passive hemorrhages, some forms of leucorrhœa, and in all those cases in which kino and catechu are beneficial. The root has long been employed in Peru, in bowel-complaints, as a corroborant in cases of enfeebled stomach, and as a local application to spongy gums. Ruiz, one of the authors of the "Peruvian Flora," first made it known in Europe. It has but recently been introduced into this country, where it is acquiring increased reputation. It has the advantage over the astringent extracts imported, that, being brought in the state of the root, it is free from adulteration, and may be prescribed with confidence. It is better known as *ex-*

tractum kramerie. Foreign or South American extract of rhatany *(extractum krameriæ* seu *rhataniæ americanum)* is occasionally imported.

Employment.—It may be taken in the form of pills, in doses of from ten to fifteen grains.

RHUBARB.

(Rheum Palmatum.)

The powdered root of this plant yields all its virtues to water and alcohol; but, unless the evaporation is performed with great care and with a very moderate heat, it is certain that the purgative principle is, to a greater or less extent, injured or dissipated in the process, and the extract may thus become even less efficient than the root. Among other consequences which result from the boiling temperature, is the formation of a compound of the tannin and starch which is insoluble in cold water, and upon its precipitation probably carries with it a portion of the purgative principle. There is, moreover, reason to believe that this principle is volatilizable by heat, and that a portion of it escapes with the vapor. It is not directed by the United States pharmacopœia. The only advantage, if it be one, which it possesses over powdered rhubarb is, that it may be given in solution; and the same object may be accomplished by employing the root itself in the state of infusion. The dose of the extract is from ten to thirty grains.

RUE.

(Ruta Graveolens.)

This extract is produced from the leaves and tops of the garden rue. It has not been used in this country, because those who prepared it have not been able to make it at a temperature low enough to prevent the dissipation of the volatile oil. This oil, upon which the stimulant and anti-spasmodic properties of rue depend, being thus driven off, the extract answers no other purpose than that of a bitter tonic; and even in this respect it is inferior to the other bitter extracts.

Our article will be found to answer the purposes intended, which are indicated above.

Employment.—As a stimulant, anti-spasmodic, or diuretic, it is given in doses of from ten to twenty grains.

SARSAPARILLA.

(Aralia and Smilax.)

The extract of the root may be made of either of the sarsaparillas treated of in this work, and employed to fulfil the indications there spoken of, in doses of from ten grains to a dram. It is a good preparation, possessing the alterative, diaphoretic, and deobstruent properties of the plant.

THORN-APPLE.

(Datura Stramonium.)

THE thorn-apple extract of our practice is made from the leaves of that well-known plant, which we have treated of in article No. 45.

Properties.—Its action resembles that of the *Belladonna* very strongly, but the celebrated M. Vogt says it is distinguished from that plant by the following peculiarities: 1. Its effects are more similar to those of acrid vegetables, especially of *Helleborus.* 2. It operates more strongly, but more in the manner of the acrid substances, on the nervous system, especially on the central organs, viz., the ganglia, spinal cord, and brain. 3. Its secondary effects on the irritable system are not so marked; for most observers have failed to detect any alteration of pulse, and a slow pulse is more frequently mentioned than a quick one. 4. It operates on the organic life more strongly; it more strongly and directly promotes all the secretions, especially the secretion of the skin. 5. Marcet and Begbie have inferred, from numerous observations, that it possesses an anodyne property, which it frequently evinces where opium and belladonna fail.

Employment.—As generally used, it is administered in the long catalogue of maniacal, paralytic, spasmodic, and epileptic diseases. The dose in pills at the commencement is one fourth of a grain, which may be gradually increased until some obvious effect is produced, but its internal administration should only be made by experienced physicians.

UVA-URSI.

(Arbutus Uva-Ursi.)

THIS extract is prepared from the leaves of the barberry, to avoid the administration of the necessarily large doses of the pulverized leaves (from a scruple to a dram), which, being so bulky and disagreeable, few stomachs will bear to persevere long enough in the use of the requisite quantity; and the same is pretty much the case with the infusion and decoction. On this account the extract is frequently preferred.

Properties.—Its properties are astringent, tonic, and mildly diuretic. The principal use of this remedy is in chronic affections of the bladder, attended with increased secretions of mucus, and unaccompanied with any marks of active inflammation. Thus, in the latter stages of catarrhus vesicæ, the continued use of uva is frequently most beneficial. "It undoubtedly possesses," says Dr. Prout, "combined with hyosciamus, considerable powers in chronic affections of the bladder, for which only it is adapted, its operation being slow, and requiring perseverance." Dr. Pereira is of the opinion that in acute bronchial affections, with profuse mucous or purulent secretion, this article may occasionally prove serviceable.

Employment.—The dose is from five to fifteen grains, given twice or three times a day.

VELVET-LEAF.

(Cissampelos Pareira.

THE root of this plant, first mentioned by Piso, in 1648, under the name of *Caapéba*, is the basis from which this extract was made, and was introduced into Paris, in 1688, by M. Amelot, French embassador in Portugal. It is usually termed *Pareira* (Parreyra) *brava*, which means, literally, *wild vine*, on account of its supposed resemblance to the root of the wild vine. The Germans call it *Grieswurzel* (that is, gravel-root), on account of its beneficial effects in stone or gravel.

Properties.—Velvet-leaf was originally introduced into medicine as a lithontriptic. Its powers in this way were at one time highly vaunted. It is now almost solely applied in discharges from the urino-genital mucous membrane. It has also been used in gonorrhœa, leucorrhœa, and chronic inflammation of the bladder. In the latter of these diseases Sir Benjamin Brodie states that he has seen more good done by this root than by the *Uva-ursi.* "I am satisfied," remarks this eminent surgeon, "that it has a great influence over the disease which is now under consideration, lessening very materially the secretion of the ropy mucus, which is itself a very great evil, and, I believe, diminishing the inflammation and irritability of the bladder also." He recommends it to be taken in the form of a concentrated decoction, to which may be added some tincture of hyosciamus; and in those cases in which there is a deposite of the triple phosphates, muriatic or diluted nitric acid may be added.

Employment.—The extract is now given in doses of from four grains to half a dram in pills, in conjunction with the infusion or decoction.

EXTRACTS IN VACUO.

THESE extracts are made by an apparatus which exhausts the air from the substance to be evaporated, thus promoting the process at the desirable low temperature. The result is an elegant extract, without the loss of any active principle. The greatest objection to this process is, that the very costly apparatus necessary to produce them will prevent their being made on a small scale. The best, simplest, and most available extracts, are those prepared by the process which we have recommended. They are easily made at any time by the practitioner, in any situation, and at a very small expense for apparatus. They possess and retain all the active principles of the agent used; and the physician, in making his own extracts, can always be certain of their purity, and be enabled to calculate with surety upon the doses administered, and the effects which will follow.

SUPPLEMENTARY AGENTS.

ANTACIDS.

WATER OF CAUSTIC AMMONIA.

(Ammonia Aqua.)

Description.—This is a colorless, limpid liquid, with a pungent ammoniacal odor, and a very acrid alkaline taste. The specific gravity varies with the strength of the preparation.

Properties.—Ammonia acts as a direct antacid, and powerfully stimulates the digestive organs. It is therefore to be preferred to the other remedies of this class, in cases where we wish to combine the effects of a stimulant and antacid, as in cardialgia, and flatulence arising from acidity of the stomach, unless there be tendency to inflammation. In cases of poisoning with prussic acid, oil of bitter almonds, &c., it is only inferior to chlorine. It is also a general stimulant, prompt but temporary in its action. It is principally used in typhus fever where there is great deficiency of nervous power, in the advanced stages of continued fever when all inflammatory action has subsided, in the cold stage of intermittents, in the eruptive fevers where the eruption has receded from the skin, and in the latter stages of pneumonia if there be much depression of the vital powers. Owing to its stimulant operation, ammonia is also found useful in spasmodic affections which depend on the increased irritability that accompanies depression of the nervous system, as in hiccough, subsultus tendinum, and some forms of hysteria and asthma. It is the best internal stimulant that can be employed in the coma of intoxication, and in poisoning with sedatives.

Employment.—The dose is from ten to thirty drops, in an ounce of water or sirup.

Incompatibles.—All acids, and the earthy and metallic salts, except those of potash, soda, lime, and baryta.

◆

BICARBONATE OF AMMONIA.

(Ammonia Bicarbonas.)

Description.—This salt is usually met with in the form of an obscurely crystallized white powder, but it may be obtained in large crystals of the right rhombic prism series. It has a weak ammoniacal odor, and a saline taste.

Properties.—This is a good antacid, free from the stimulating properties of ammonia or of its carbonate, and is also more agreeable to the taste.

Employment.—The doses are from five to twenty-five grains, in cold water.

Incompatibles.—Same as the preceding.

CARBONATE OF AMMONIA.

(*Ammoniæ Carbonas.*)

Description.—This is a solid white salt, in semi-transparent fibrous cakes or fragments, with a pungent ammoniacal odor, and a caustic saline taste. Its specific gravity is ·966.

Properties.—It is said to be administered with much advantage in the lithic acid diathesis, and has been used, it is stated, with much benefit in diabetes. It is also employed as a stimulant in the same cases as the aqueous solution of ammonia, to which it is usually preferred. The chief advantage that ammonia and the sesqui-carbonate possess as stimulants in febrile diseases is, that they rouse the energies of the system without producing that disturbance of the brain which is liable to result from the use of vinous liquors.

Employment.—Give from five to twenty grains in pill or cold water; or dissolve one ounce in a gill of water and filter, taking from thirty to forty drops at a dose in cold water.

Incompatibles.—Acids, the fixed alkalies and their carbonates, bitartrate of potash, calcareous salts, and the salts of iron, zinc, lead, and mercury; but sulphate of magnesia is not incompatible with carbonate of ammonia.

◆

LIME-WATER.

(*Calcis Aqua.*)

Description.—Lime-water is prepared by pouring hot water upon unslaked lime, which forms a transparent colorless liquid, odorless, but having a disagreeable, alkaline taste.

Properties.—It is antacid and antiseptic, and is said to be useful in dyspepsia where there is great irritability of the stomach, accompanied by constant secretion of acid. A diet almost exclusively of lime-water and milk, in the proportion of one part of the former to two or three of the latter, is found to be a very effectual plan of treatment in dyspepsia accompanied by vomiting of food. In the acidity of stomach of the gouty and rheumatic diathesis, the alkaline acids should be preferred to lime. The addition of a small portion of muriate of mercury forms the *Yellow Wash.* When lime-water has been administered for some time, its use should be occasionally discontinued.

Employment.—From one to four fluid ounces may be taken at a dose.

Incompatibles.—The vegetable and mineral acids, alkaline and metallic salts, tartar-emetic, and most vegetable infusions and decoctions, as those of columbo, cinchona-bark, gentian, senna, rhubarb, sarsaparilla, &c.

◆

PREPARED CHALK.

(*Creta Præparata.*)

Description.—It is found in the shops in small conical masses, of a dull grayish-white color, opaque, and very friable; the powder is soft and massive. It is odorless and tasteless, but adherent to the tongue. Its specific gravity is about 2·3. Precipitated carbonate of lime is a snow-white, fine powder.

Properties.—Chalk is employed with much advantage as an antacid, in acidity of the stomach, especially when accompanied with diarrhœa, as is so frequently the case in infancy and childhood; for this purpose it is beneficially combined with aromatics or with opium. It is also employed as an antidote in poisoning with nitric, muriatic, or oxalic acids.

Employment.—From ten grains to two drams are given as the doses, in powder or in mixture. It is best given in solution. To two drams of prepared chalk add eight ounces of water: dose, a tablespoonful every four hours. This is an excellent mixture for diarrhœa in pulmonary consumption.

Incompatibles.—Acids and acidulous salts.

◆

CALCINED MAGNESIA.

(Magnesia.)

Description.—This is a very light, soft powder, perfectly white, odorless, and tasteless, slightly adherent to the tongue. Specific gravity about 2·3.

Properties.—Magnesia is employed in dyspepsia attended with acidity of the stomach and constipation; in such cases it is generally preferred to the alkalies, as being less irritant, and as the combinations which it forms with the free acids of the stomach are gently laxative. In gastrodynia and heartburn, given in combination with some aromatic, a short time before the meals, it seldom fails to prove beneficial. It is also administered with much advantage in the acidity attendant on infantile diseases, and in persons of a gouty and rheumatic diathesis.

Employment.—The dose is from ten to fifteen grains, twice or three times daily. It may be given suspended in milk, or in some aromatic water.

Incompatibles.—Acids, acidulous salts, metallic salts, and muriate of ammonia.

◆

WATER OF CAUSTIC POTASH.

(Liquor Potassæ.)

Description.—This is a transparent colorless liquid, with an oily appearance, and a soapy feel. It is odorless, but has an intensely acrid alkaline taste.

Properties.—In dyspepsia attended with acrid eructations, cardialgia, and gastrodynia, solution of potash is employed with much benefit. Its beneficial action is especially manifested in various forms of chronic cutaneous disease so often dependent on acidity of the digestive organs, in which cases it should be preferred to the other remedies of this class. In the acidity of the stomach of the gouty and rheumatic, and in deposites of lithic acid, or the lithates in the urine, solution of potash is also administered with much advantage. And in scrofulous affections of the testis and in many forms of external tubercular disease, the internal use of this remedy is in general productive of the best effects.

Employment.—The dose generally given is ten drops, gradually increased to forty drops, which should be largely diluted, when taken, with broth or something to conceal its disagreeable taste. The combination with some aromatic bitter, as gentian, cascarilla, or columbo, is generally found highly beneficial. In cases of poisoning with solution of potash, the best antidotes are vinegar, lemon-juice, and the fixed oils.

Incompatibles.—Acids, acidulous and metallic salts, and the preparations of ammonia.

BICARBONATE OF POTASH.

(Potassæ Bicarbonas.)

Description.—This is composed of transparent, colorless crystals, the primary form of which is a right oblique-angled prism. It is inodorous, but has a mildly alkaline taste, without any acridity. It is permanent in the air; exposed to a moderate heat, part of the carbonic acid is driven off, and it is reduced to the state of carbonate. It is soluble in four parts of water at 60°, and in less than its own weight of boiling water. The solution is feebly alkaline; it is insoluble in alcohol.

Properties.—This may be given instead of the preceding article, but it is not so powerful as that preparation. It possesses the advantage, however, of being less unpleasant to the taste, and its employment may be continued without interruption for a longer period.

Employment.—The doses are from ten to twenty grains, two or three times a day. This is one of the best salts for medicinal purposes. It may be given dissolved in some aromatic water, but we use it in preparing our *Neutralizing Mixture*, which is a valuable remedy for diarrhœa.

Incompatibles.—Acids, acetate and muriate of ammonia, lime-water, and most of the metallic salts, but not sulphate of magnesia.

BICARBONATE OF SODA.

(Sodæ Bicarbonas.)

Description.—This is usually in the form of a fine white powder, but sometimes met with in small indistinct crystals. It is inodorous, but has a mild alkaline taste.

Properties.—This salt has the general medical properties of the carbonate, but, from its mild taste and less irritating qualities, proves more acceptable to the palate and stomach. It is often resorted to in calculous cases, characterized by predominant uric acid. It has likewise been given in infantile croup, with apparent advantage in promoting the expectoration of the false membrane, in the dose of a grain every five minutes, dissolved in milk and water. In the various forms of dyspepsia attended by secretion of acid and vomiting, no remedy is so effectual as the bicarbonate of soda, being usually taken in solution with excess of carbonic acid.

Employment.—The dose for an adult is from ten grains to a dram, and is taken most conveniently in a glass of carbonic-acid water. This salt is priscipally consumed in making what are called soda and Seidlitz powders, and is sometimes made into lozenges.

Incompatibles.—Acids, lime-water, muriate of ammonia, and metallic salts, except those of magnesia.

ANTHELMINTICS.

POWDERED TIN.

(Pulvis Stanni.)

Preparation.—Tin, being a very fusible metal, is readily granulated by fusion and subsequent agitation when in the act of congealing. The process is performed, on a small scale, in a wooden box, the inside of which has been well rubbed with chalk. This should be afterward washed away by water, and the coarser particles separated by a sieve.

Properties.—Powder of tin is a most effectual anthelmintic, especially for children, in cases of lumbrici, not so useful in cases of ascarides, and producing little or no effect in cases of tænia. It appears to act mechanically, and consequently its administration should be always followed by an active cathartic. For internal use it must be free from oxydation.

Employment.—Half an ounce is the usual dose, mixed with molasses, given for several successive mornings, and then followed by a brisk cathartic. Dr. Alston was in the habit of administering larger doses for the expulsion of the tapeworm. He began by giving an ounce on an empty stomach, which was followed, for two successive days, by half an ounce each day, and finally by a brisk purge.

ANTI-SPASMODICS.

CASTOR.

(Castoreum.)

Description.—That substance known as *Castor*, and which forms a part of the materia medica, consists of sacs taken from the Castor (*Castor fiber* of Linnæus), containing a secretion peculiar to that animal. They are wrinkled; of a reddish-brown color externally, paler internally; breaking with a somewhat resinous fracture; and are sometimes quite hollow in the centre. It has a strong, peculiar, disagreeable odor, and a somewhat aromatic, bitter taste.

Properties.—It is moderately stimulant and anti-spasmodic. If given in large doses it quickens the circulation, and gives other evidences of general excitement.

Employment.—It is best administered in combination with asafœtida and ammonia. The most suitable formula is that of the Edinburgh pharmacopœia, as follows:—

COMPOUND TINCTURE OF CASTOR.

(Tinctura Castorei Compositum.)

Take Castor, bruised, 2½ ounces;
Asafœtida in small fragments, 10 drams;
Spirit of Ammonia, 2 pints.—Mix.

Digest in a well-closed vessel for seven days, strain, strongly express the residuum, and filter. This forms a stimulant anti-spasmodic in doses of from one to two fluid drams. The spirit of ammonia is a good solvent, and both itself and the asafœtida are useful in the same class of cases as the castor.

WOOD-SOOT.

(Fuligo Ligni.)

Description.—This well-known substance, found deposited in flues and chimneys where wood is burned, is often employed in medicine with excellent effect.

Properties and Uses.—Anti-spasmodic, tonic, &c. It has been found most beneficial in the latter stages of hooping-cough in children, and in some forms of hysteria, for which purpose the tincture is generally given. As an external remedy the ointment or decoction is used with advantage in many cases of herpetic eruptions. Dr. Hewson, of Philadelphia, found an infusion of soot an efficacious remedy, employed by injection, in cases of ascarides. In one case of long standing in an adult, in which a number of remedies had been tried unsuccessfully, injections of soot daily, persevered in for two weeks, effected a complete cure. The injection was made by adding a cupful of soot to a pint of boiling water, and straining the solution. An infusion of hickory ashes and soot is used as a popular remedy for dyspepsia. It is made by infusing a pint of clean hickory ashes and a gill of soot in half a gallon of boiling water, allowing the liquor to stand for twenty-four hours, and then decanting. Of this a small wineglassful is taken three or four times a day. No doubt this infusion has been useful in acidity of the stomach; but its indiscriminate use in the various gastric affections popularly confounded under the name of dyspepsia, is calculated to do much harm. A tea made of common wood-soot, and drank freely, is valuable in jaundice.

M. Blaud details a number of cases of cure effected by soot in various diseases, such as obstinate tetters, fistula, cancerous and venereal ulcers, chronic irritations of the lining membrane of the mouth, &c.

TINCTURE.

Take Wood-Soot, 2 ounces;
Asafœtida, 1 ounce;
Proof Spirit, 2 pints.—Mix

Digest for three days, and strain. The dose is from one to two drams.

DECOCTION.

Take Wood-Soot, 4 ounces;
Boiling Water, 3 gills.—Mix.

Boil down to a pint, and strain. This forms a good application to eruptions on the scalp, and for obstinate ulcers.

MUSK.

(Moschus.)

Description.—This substance is the inspissated secretion from the præputial follicles of the musk-animal *(Moschus moschiferus* of Linnæus), a native of the mountains of eastern Asia. In the male animal, immediately in front of the præputial orifice, is situated a small sac filled with a viscid fluid, which in the dry state constitutes musk. It is principally imported from China.

The musk-bag, or, as it is commonly called, *musk-pod*, is somewhat oval, about two and a half inches long, and one and three fourth inches broad, smooth and bare on one side, somewhat convex, and covered with stiff, brownish-yellow hairs on the other; it contains from one and a half to three drams of musk. The musk is in the form of small unctuous grains, of a deep reddish-brown color, mixed with whitish hairs. It has a strong, peculiar, diffusible, very persistent odor, and a bitter, aromatic taste.

Properties.—Musk is a stimulating anti-spasmodic of great power, and is administered with excellent effect in hysteria, in chorea, and in the subsultus tendinum and hiccough of fevers and other diseases assuming a typhoid type. In cases of hysteria of long standing, so nearly allied to epilepsy as to be scarcely distinguishable from it, very beneficial results have followed the employment of musk.

Employment.—In substance, from ten to twenty grains is the dose.

MIXTURE.

Take Musk, powdered Gum-Arabic, and Sugar, of each 3 drams;
Rose-Water, 1 pint.

Rub the musk with the sugar, then with the gum, the rose-water being gradually poured in. Dose, from one to two fluid ounces.

The following formula, which a friend informs me he has tried, affords immediate relief in severe paroxysms of the disease of the heart. It is termed *heart's-ease*. Musk is one of the articles which enters into it:—

Take English Valerian, 4 pounds;
Saffron, 1½ pounds;
Aloes, pulverized, 2 pounds;
Sulphuric Ether, 16 pounds;
Musk, 5 ounces;
Oil of Bergamot, 2 ounces;
Oil of Lavender, 3 ounces;
Alcohol, 7 gallons.—Mix.

Dose, a teaspoonful three times a day in half a wineglassful of water. The above large quantity was prepared (as it usually is) at one time.

Adulterations.—Grain-musk is usually adulterated; dried bullocks' blood is employed for this purpose. It may be detected by adding to an infusion of the suspected drug solution of the corrosive sublimate: if it be genuine, it will not precipitate. Spurious musk-bags are not uncommon in commerce.

Incompatibles.—Sulphate of iron, nitrate of silver, corrosive sublimate, and infusion of bark.

ASTRINGENTS.

VINEGAR.

(Acetum Vini.)

Description.—The physical properties of vinegar are too well known to need a particular description. It varies much in strength, and for medical purposes should be distilled, to free it from many impurities. The produc should be of the density of 1,005.

Properties.—Vinegar is an excellent refrigerating astringent, and as such is employed with much benefit in the colliquative sweating and diarrhœa of hectic. Taken largely diluted with water, as the usual drink of the patient, it will seldom fail to diminish the excessive discharges. As a local astringent it is used with much benefit to check hemorrhage, particularly when i proceeds from the large intestines. In relaxation of the uvula and tonsils, it forms an excellent addition to astringent gargles; and in chronic ophthalmia, diluted with water it is beneficially employed as a collyrium. As an external refrigerant its action is attended with much benefit in the treatment of most febrile and inflammatory diseases; it should be applied by means of a sponge to the surface of the body. To form a solution for this purpose, one fluid ounce is mixed with three fluid ounces of cold or tepid water according to circumstances. It may be drank freely, if its astringent property be not objectionable. I have found that equal parts of spirits of hartshorn, vinegar, and olive-oil, make an excellent counter-irritant for all neuralgic and deep-seated pains.

OIL OF VITRIOL.

(Acidum Sulphuricum.)

Description.—Sulphuric acid is a heavy, oily-looking liquid, transparent, colorless when pure (the commercial acid generally has a brownish-yellow tinge), inodorous, with an intensely acid, burning taste; when much diluted with water, the taste is merely styptic.

Properties.—Properly diluted, this is an excellent tonic astringent, and is employed with very beneficial results in all forms of passive hemorrhages, and to check excessive discharges when they are dependent on debility. Thus, it is used with much advantage in hemoptysis, in epistaxis, in slight but protracted bleedings from the uterus, the stomach, or intestines, and in the colliquative sweating and diarrhœa of hectic. In calculous affections with phosphatic deposites, dilute sulphuric acid is administered with much advantage; and in painters' colic it is very generally employed with benefit. A solution of oil of vitriol, given under the name of *elixir vitriol*, in doses of fifteen drops in water, is a valuable remedy for night-sweats. In poisoning by this acid, the best antidotes are the alkaline bicarbonates, or carbonate of magnesia.

Employment.—One part of the acid is generally diluted with seven parts of water (the acid being gradually added to the water and mixed), of which the dose is from ten to thirty drops in from one to two fluid ounces of some mild liquid. "In prescribing any of the dilute mineral acids," observes Dr. Neligan, "it is generally recommended that the patient be directed to suck them through a quill, in order to prevent them from having any injurious effect on the teeth; but my friend Mr. L'Estrange, of Dublin, has suggested to me a much more efficacious plan, namely, that a small bit of butter should be rubbed over the teeth just before the dose is to be taken. This method is of course equally applicable where other medicines which injure the teeth (as many preparations of iron, iodine, &c.) are administered."

Incompatibles.—The alkalies and their carbonates, most metals and their oxydes, some of the earths and their carbonates, acetate of lead, chloride of calcium, muriate of baryta, nitrates, alcohol and all tinctures, organic substances, essential oils, and vegetable astringent infusions or decoctions.

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ALUM.

(Alumen.)

Description.—As met with in the shops, alum is in transparent, colorless, crystalline masses, void of odor, and having a sweetish, astringent taste. Its specific gravity is 1·700.

Properties.—Alum is a powerful astringent, and as such is employed with benefit in the treatment of many diseases, both as a general and topical remedy. Administered internally, it is found useful in the treatment of chronic diarrhœa and dysentery, in atonic mucous discharges, in passive hemorrhages, in the colliquative sweating of hectic, &c. In pyrosis, given in large doses frequently repeated, it has proved very successful in the hands of many practitioners; and it has also, when given in full doses combined with opium, been found to be an excellent remedy in the treatment of colica pictonum. As a topical astringent, it is employed to arrest bleeding from minute vessels, as in epistaxis, in menorrhagia, in hemorrhage from leech-bites, &c. *Dried alum* in fine powder is an excellent application in the early stages of the inflammatory sore throat of scarlatina, measles, and small-pox, and in diphtheritis; it is best applied by placing a small portion of it in an open glass tube, and blowing it into the throat. Dissolved in water, alum is also employed with much advantage as a gargle in relaxation of the uvula and tonsils, in chronic ulcerations of the mouth and fauces, and in excessive salivation; as a collyrium in chronic ophthalmia, and as an injection in gleet and fluor-albus. A weak solution forms an excellent application for the purulent ophthalmia of infants.

When the inflammatory symptoms, peculiar if not always characteristic of certain cases of typhoid fever, mark the commencement, and are followed by a weak pulse, a dull and languid expression, diarrhœa, and heat of the skin, alum has been applied with success. When the inflammatory condition returns, if such a state of things occur, the alum is discontinued. In the stage of collapse, when there is excessive prostration of strength, colliquative dejections, sordes hemming in the teeth and furring up the gums, alum, even uncombined with any other medicine, acts very beneficially. It diminishes the diarrhœa, as a first and most important remedy; the tongue, previously dry, glassy, and hard to the touch, begins to soften, as it were, and becomes moist, and the muscular power is improved.

In a late edition of Underwood's "Treatise," edited by Dr. Davies, he says: "After a long trial, I am disposed to attach more importance to alum, as a remedy in hooping-cough, than to any other form of tonics or antispasmodics. I have often been surprised at the speed with which it arrests the severe spasmodic fits of coughing; it seems equally applicable to all ages, and to almost all conditions of the patient. I was formerly in the habit of taking much pains to select a certain period of the illness for its administration, and of waiting until the cough had existed at least three weeks, taking care that the bowels were open, the patient free from fever, the air-passages perfectly moist, and the disorder free from complication of any bruit. A continued observation of the remedy, however, has induced me to be less cautious, and I am disposed to think that a very large amount of collateral annoyances will subside under its use. The fittest state for its administration will be a moist condition of the air-passages, and freedom from cerebral congestion; but an opposite condition would not yield to other remedies. It generally keeps the bowels in proper order, no aperient being required during its use. The dose for an infant is two grains three times daily; and to older children four, five, and up to ten or twelve grains, may be given, mixed with sirup of *Rhœados* and water. It is seldom disliked."

Employment.—The internal dose of the powder in ordinary cases is from ten grains to half a dram, either made into pills with extract of licorice, or dissolved in some aromatic water.

Incompatibles.—Alkalies and their carbonates, lime and magnesia and their carbonates, tartrate of potash, acetate of lead, salts of mercury, vegetable extractive matter, and substances containing tannin.

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BLUE VITRIOL.

(Cupri Sulphas.)

Description.—The sulphate of copper usually occurs in fragments of large crystals, of the oblique rhombic prism series. It is semi-transparent, of a beautiful blue color, without odor, but having a styptic, metallic taste. Its specific gravity is 2·2.

Properties.—In large doses it is a powerful irritant poison, but in small repeated doses it operates as a tonic and astringent: with the latter intention it is only employed in chronic diarrhœa and dysentery, in which it will often succeed in checking the discharges when vegetable astringents completely fail. Externally, a solution of sulphate of copper is used with benefit as a stimulating astringent to indolent and ill-conditioned ulcers accompanied with excessive discharge, as a collyrium in chronic ophthalmia, and as an injection in chronic mucous discharges from the urethra or vagina. In the early stages of gonorrhœa, if the inflammation does not run very high, a weak solution (one grain to a fluid ounce of water), injected three or four times a day, will often succeed in checking the disease.

In poisoning with blue vitriol, the best antidote is albumen as the whites of eggs; and in their absence, wheaten flour. Sugar has also been found beneficial, and iron filings have been recently proposed, so as to precipitate the copper in the metallic state.

Employment.—The doses are from half a grain to two grains, made into pill with conserve of roses. For a lotion, dissolve from two to ten grains in a fluid ounce of water; for an injection, from one to four grains in the same quantity of water.

Incompatibles.—The alkalies and their carbonates, lime-water, acetate of lead, nitrate of silver, corrosive sublimate, all the salts of iron except the sulphates, and most astringent vegetables.

COPPERAS.

(Ferri Sulphas.)

Description.—Copperas, or green vitriol, is a salt composed of iron and sulphuric acid. It is found in a native state, and also combined with other substances. It is commonly met with in large transparent, pale bluish-green crystals, the primary form of which is the oblique rhombic prism. They are inodorous, but have an acid, disagreeable, styptic taste. Its specific gravity is 1·82.

Employment.—We use it only as an external application. By submitting copperas to the action of a red heat, a red powder is formed, which acts as a very powerful astringent. It is applied in cases of hemorrhage, piles, &c. Combined with lard, it is also serviceable in cutaneous eruptions.

SUGAR OF LEAD.

(Plumbi Acetas.)

Description.—Acetate of lead is commonly found in masses, composed of slender prismatic crystals, aggregated, of a yellowish color, and slightly efflorescent. It has a very sweet and styptic taste, is abundantly soluble in water, but scarcely forms a transparent solution, even with distilled water, owing to a slight decomposition.

Properties.—As an external application, sugar of lead is often employed to obtain its astringent effect. A solution, formed by adding three grains to an ounce of water, is used as an injection in gonorrhœa; and, producing no irritation, is not liable to be attended with the injurious consequences which sometimes arise from more active preparations. A solution rather weaker is used as an eye-water in ophthalmia, and is applied even in a state of active inflammation; a stronger solution is a common application in superficial inflammation. As a collyrium, this article should not be employed in any form of ophthalmia when the cornea is ulcerated, as it produces an indelible white stain which becomes imbedded in the substance of the cornea—an observation first made by Dr. Jacob, of Dublin.

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BORAX.

(Soda Biboras.)

Description.—Borax is found in large quantities in several lakes of Thibet and China, and in some of the mines of Peru. It is purified by melting it over the fire, then dissolving it while in powder, and permitting it to crystallize. It is white, semi-transparent, and of a styptic and urinous taste.

Properties.—It is used only externally, as an astringent and gargle in aphthæ, and in excessive salivation, attended with ulcerations of the tongue and of the internal surface of the cheeks. It is remarkably antiphlogistic in its nature, and very readily allays heat and irritation. A solution of it forms the *Cooling Wash*, which is useful in ophthalmia and other inflammations, and in diseases of the skin. Borax is also an excellent diuretic in cases of uric acid gravel, as a solution of it dissolves that acid freely, and does not produce any injurious constitutional effect, even when its use has been continued for some time. It should not be administered to pregnant females, as it stimulates the uterus, and has in some instances caused abortion.

Incompatibles.—The mineral acids and most of their salts.

CATHARTICS.

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EPSOM SALTS.

(Magnesia Sulphas.)

Description.—This salt is found in the shops in small acicular crystals, transparent and colorless. It is inodorous, but has an extremely bitter, disagreeable taste. By slow crystallization tolerably large crystals are readily obtained; their form is the four-sided rhombic prism with reversed dihedral summits, or four-sided pyramids. Its specific gravity is 1·66.

Properties.—Epsom salts, or sulphate of magnesia, is a refrigerant cathartic, operating mildly but effectually, augmenting the secretions, and promoting the peristaltic action of the intestinal canal. The evacuations are watery, and are not accompanied with either nausea or griping. It is peculiarly adapted for all forms of febrile and inflammatory affections, especially when accompanied by constipation. There are few diseases in which cathartics are indicated, that it may not be employed with benefit. It forms the active ingredient in many mineral waters.

Employment.—From two drams to an ounce may be dissolved in seven or eight times its weight of water. Its cathartic properties are promoted by dilution; therefore a smaller dose than usual will suffice, if dissolved in a large quantity of water. Tincture of some aromatic bitter, as of cascarilla, columbo, orange-peel, &c., is added with advantage to the solution to conceal its nauseous taste; this is best done, however, by the addition of ten or twelve drops of dilute sulphuric acid, or by administering the salt in the acid infusion of roses—an elegant and beneficial form in febrile diseases.

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CREAM OF TARTAR.

(Potassæ Bitartras.)

Description.—This salt is met with in the form of either a fine white powder, or a semi-transparent crystalline mass, the crystals being oblique rhombic prisms; it is without odor, but has an agreeable acid taste. Its specific gravity is 1·953.

Properties.—In full doses, cream of tartar operates as an active cathartic, producing many watery evacuations, without much irritation. Combined with sulphur in the form of electuary, it is an exceedingly useful purgative in hemorrhoidal affections and in skin-diseases; and in jalap, it forms a good cathartic in dropsies. When administered in small doses dissolved in a large quantity of water, or in combination with other diuretics, it increases the secretion of urine remarkably, and consequently is very generally employed in all forms of dropsy.

Employment.—Full doses are from three to six drams, made into an electuary with honey or molasses. Dose as a diuretic, from twenty grains to one dram, to be frequently repeated.

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ROCHELLE SALTS.

(Sodæ et Potassæ Tartras.)

Description.—This salt occurs in large, beautiful, transparent crystals, which are right rhombic prisms, generally produced in halves. It is inodorous, with a saline, somewhat bitter taste. Its specific gravity is 1·757.

Properties.—It is a mild, cooling laxative, not so active as most of the other saline cathartics, than which also its taste is less disagreeable. It is seldom prescribed alone, but is in very general use as the active ingredient in the commonly-called Seidlitz *(Seignettes?)* powders.

Employment.—The doses may be from two to six drams, and in some instances an ounce, dissolved in a large quantity of water.

SEIDLITZ-POWDERS.

Take Rochelle Salts, powdered, 2 drams,
Bicarbonate of Soda, 2 scruples.—Mix, for the blue paper.
Powdered Tartaric Acid, ½ dram for the white paper.

◆

SULPHUR.

(Sulphur Vivum.)

Description.—This is an elementary substance found in large quantities in an impure state, in the neighborhood of volcanoes; it is also found combined with metals in many parts of the earth, and with hydrogen in many mineral waters. Crude sulphur is imported from Italy and Sicily. Sulphur vivum is a dark-brown powder, without much resembling the crude article, as regards appearance or smell.

Properties.—I have found sulphur vivum to be a specific for the itch. It soon cures it, without producing any disagreeable symptoms or smell, or even the necessity of changing the clothes. It should be pulverized, mixed with fresh butter or lard, and rubbed on the parts affected as often as there is any itching. This powder appears to form the basis of some of those itch-ointments which are said to cure the complaint in a few hours. The ointment is also useful in salt-rheum, herpetic affections, &c.

The flowers of sulphur (*sulphur sublimatum*) is in the form of fine powder, which, when examined by the microscope, is seen to be composed of crystalline grains. It is of a bright yellowish-green color, with an almost imperceptible taste, and a faint, peculiar odor when rubbed. Its specific gravity is 1·98.

Employment.—In large doses, sulphur acts as a mild cathartic, producing its effects by stimulating the muscular coat of the intestines, the evacuations caused by it being usually solid. In consequence of the mildness but certainty of its operation, it is generally employed in hemorrhoidal diseases, and in stricture or other painful affections of the rectum. The dose as a cathartic is from two to four drams, made into an electuary with honey or molasses. It is usually given in combination with jalap and bitartrate of potash.

Dr. F. H. Peckham, of Connecticut, says of this article: "In dyspepsia, accompanied with a weak, relaxed state of the stomach and intestines, sulphur, combined with small doses of capsicum and ipecacuanha, taken three times a day, before eating, will prove almost a specific. Where there is an inactive state of the liver, accompanied as it generally is by an indolent state of the bowels, sulphur, with calc. magnesia, and a decoction of dandelion and wild cherry-tree bark, will speedily remove the disease. In all cases where the cutaneous function is disordered, sulphur is a valuable medicine: it promotes insensible perspiration, by passing through the whole habit and transpiring through the pores of the skin, as appears by the sulphurous smell of persons having taken it, and from silver being stained of a black color in their pockets, which is the known effect of sulphur. In all muco-membranal diseases, as well as cutaneous, sulphur is a valuable medicine, from the diaphoretic, diuretic, and laxative qualities which it possesses.

"Sulphur was formerly used in cough to a considerable extent, and with good effect; but it has quite gone into disuse for this purpose, except among farriers, who use it in coughs of horses and other animals with good success. In the horse I have employed it successfully, combined with crude antimony, in the proportion of one fourth of a pound of antimony to a pound of sulphur. Mix, and give a tablespoonful of this mixture in oats or meal three times a day. I have used sulphur in hooping-cough with good effect, in combination with blood-root. I have found it useful in catarrhal coughs of winter, especially in children troubled with worms. I have also employed it in chlorosis with decided advantage, and attribute the beneficial influence which it exerts upon this disease to the healthy action which it establishes in the assimilative functions."

The fumes of sulphur have in a variety of ways been applied to the cuticle as a remedy for diseases of the skin. The best apparatus which I have seen for the purpose consists of a stove with a proper compartment in it where the sulphur is put in and burnt. The fumes are conducted by a small pipe into a tight box where the patient is seated, the head being outside, and proper stuffing about the neck to prevent an escape of the vapor. When done, a small flue is opened, which carries off the fumes from the box into a chimney, and the patient may then be removed. The *sulphur vapor bath*, as this apparatus is called, is an excellent agent in the cure of leprosy and many cutaneous diseases.

CAUSTICS.

WHITE VITRIOL.

(Zinci Sulphas.)

Description.—Sulphate of zinc, or white vitriol, is found in water, but in an impure state, and in small quantities. It is made by the application of dilute sulphuric acid upon zinc, and then allowing the solution to crystallize. This salt is met with in the shops in small fragments of transparent, colorless crystals, the primary form of which is the right rhombic prism. They are inodorous, but have a styptic, metallic taste.

Properties and Uses.—It is used as an escharotic, in the form of powder, or combined with other articles. Added to water, it makes a cooling wash, and is employed in inflammation of the eyes, and occasionally in the form of injection.

In poisoning with this salt, warm demulcent drinks, as infusion of linseed, decoction of barley, &c., should be administered to promote its evacuation by vomiting. Should inflammatory symptoms occur subsequently, they are to be combated by the usual antiphlogistic remedies.

CAUSTIC POTASH.

(Potassa Caustica.)

Description.—This article is found in the form of round sticks, like the nitrate of silver, or in irregular flat pieces. It is of a grayish-white, sometime reddish color, with a smell like that of lime while slaking, and having a corrosive action on the mouth; exposed to the air, it attacks quickly the carbonic acid, and moisture of the atmosphere, and is thus converted into a very deliquescent subcarbonate.

Properties and Uses.—Caustic potash is a powerful escharotic, quickly decomposing the parts with which it is brought in contact. It is principally used to remove tumors, and to form issues, which are most conveniently made by placing on the skin a piece of linen spread with adhesive plaster, and perforated with a hole of the size of the proposed issue. The caustic, being held in a paper, is then applied to all the skin which is left bare by the perforation. This skin immediately becomes moist, and turns a dark color, a burning sensation taking place in the part. If the caustic be good, the vitality of the skin will be destroyed in ten or fifteen minutes. It may then be washed with vinegar, to neutralize the remaining caustic. The yeast-poultice must now be used. The dead skin commonly sloughs off in a week or two. Caustic potash differs from all other caustics, in exciting no pain or inflammation, except for a few minutes when first applied.

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LUNAR CAUSTIC.

(*Argenti Nitras.*)

Description.—Nitrate of silver, or lunar caustic, is a solid salt in the form of rods or pencils, smooth and polished on the surface, of the thickness of a writing-pen. They have a crystalline fracture, and are of a grayish-slate color, inodorous, with a bitter caustic and metallic taste.

Properties.—As a caustic, nitrate of silver possesses many advantages over most other remedies of this class, and consequently is much more frequently employed. Applied to the skin or to the mucous membranes, it produces a whitish stain, which rapidly becomes grayish, and if exposed to light finally black; and at the same time the part to which it is applied is deprived of vitality. Its chief value as a caustic depends on its great manageableness in cousequence of its solid form, on its property of not deliquescing, and on its mild but effectual action, the pain produced by it although sometimes acute, being but of short duration.

Employment.—Its uses are very numerous. It is employed to destroy warts, corns, and many small tumors; to check hemorrhage occurring from small vessels, as from the bleeding of leech-bites in children; to repress exuberant granulations; applied to the sound skin above the inflamed part, to stop the spread of erysipelas and erythema, to effect which it must be applied freely so as to destroy the rete-mucosum as well as the cuticle. In the first stage of chancre, when the ulcer is very minute, nitrate of silver applied freely generally checks the disease and prevents it from spreading farther; indeed, in all sores about the prepuce or glans, whether of syphilitic origin or not, its application is for the most part beneficial. In large indolent ulcers, applied over the whole surface, it acts with excellent effect; in many instances as soon as the eschar which it causes peels off, the sore is found to be healed. Two grains dissolved in an ounce of water makes an excellent eye-wash.

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CORROSIVE SUBLIMATE.

(*Hydrargyri Murias Corrosivum.*)

Description.—The chloride of mercury is found in the shops in the form of circular pieces, white, and semi-transparent on the edges; convex, smooth, and shining, on one side; with an extremely acrid, caustic, metallic taste.

It is prepared by mixing in a close vessel four parts of common salt, one part of peroxyde of manganese, and five parts of sulphate of mercury. This mixture is submitted to heat, and the muriate of mercury volatilizes and condenses on the superior sides of the vase.

Properties.—Some practitioners employ this article as a caustic, and as an external application. With borax or lime-water it also forms the *yellow wash*, which is much used in venereal affections.

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CHLORIDE OF GOLD.

(Auri Perchloridum.)

Preparation.—The following is the method of the French Codex: take pure laminated gold and nitric acid, of each one part; muriatic acid, two parts: dissolve the gold in the mixed acids with a gentle heat, evaporate till the solution begins to emit chlorine, and set it aside to crystallize by cooling.

Properties.—MM. Récammier and Legrand signalized the advantages of the chloride of gold as a caustic, many years ago; and other authors have confirmed their statements, from observations made chiefly in the treatment of lupus and syphilitic tubercles and ulcers. M. Chavannes has stated that the chloride of gold destroys less than the other caustics, and, when the crust separates, cicatrization is found in a forward state of advancement. The cicatrix which remains after the use of this chloride is said to be less marked than when other caustics are employed.

Employment.—Apply by means of a piece of lint dipped in it.

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VEGETABLE CAUSTIC.

Description.—This is an alkali prepared by slowly simmering the ley made from the ashes of sound wood, as hickory, oak, or beech, till it becomes of the consistence of thin molasses, and sometimes solid. Toward the close it should be evaporated in a water-bath; then put it in an open-mouthed glass jar with a glass stopper.

Properties and Uses.—The liquid portion of the powder may be used. This is the best caustic in every case where it is necessary to apply one, as it has the peculiar property (so different from most other articles of this class) of acting as an escharotic without producing inflammation. It is the most efficacious remedy for cancers, fistulas, obstinate ulcers, and other soft and morbid growths, with which I am acquainted. It also forms an excellent application for all unhealthy granulations or fungous flesh, and in all venereal vegetations.

Employment.—A camel's-hair pencil may be dipped in the liquid and applied to the parts occasionally, or the powder may be sprinkled upon them. Where there are scrofulous, fistulous, or other sinous ulcers, the caustic may be dissolved in water according to the strength required (as a dram to one or two ounces of water), and injected. The application is attended with much pain at first, but which soon subsides with improvement of the disease.

DIURETICS.

SWEET SPIRITS OF NITRE.

(Ætherus Nitrosus Spiritus.)

Description.—The spirit of nitric ether is a transparent, colorless liquid, with a peculiar fragrant, ethereal odor, and a pungent, sweetish, acidulous taste. The specific gravity, as prepared by the three British pharmacopœias, varies: that of London (and of the United States) being ·834; of Edinburgh, ·847; and of Dublin, ·850.

Properties.—It operates as a mildly stimulating diuretic, and with such intention is administered in dropsical affections, especially when occurring in children. It is most generally employed as an addition to other remedies of this class, the diuretic operation of which it renders more certain. Spirit of nitric ether sometimes fails to act on the kidneys, when it generally promotes the cuticular secretion, and consequently it is frequently employed with benefit in combination with the water of acetate of ammonia in the early stages of febrile diseases. Christison states that as a diuretic he has found sweet spirits of nitre "least serviceable in dropsy connected with diseased kidney, and most useful in the form associated with diseased heart."

Employment.—The doses are from half a dram to three drams every second or third hour, in water or in camphor-mixture.

Incompatibles.—Sulphate of iron, alkaline and earthy carbonates, and tincture of guaiacum.

SPANISH FLIES.

(Cantharis Vesicatoria.)

Description.—This fly is the *Meloë vesicatorius* of Linnæus, an insect very common in Spain, Italy, and France, where they are found in large families on the fraxinus, lilac, viburnum, &c. They have a body from six to ten lines long, of a shining, golden-green appearance; they have a strong, penetrating, unpleasant, and peculiar odor, and an extremely acrid taste. Their powder is of a brownish-gray, intermixed with shining particles of a metallic-green color. At night, while in a torpid state, they are shaken from the trees on which they feed, upon a cloth spread underneath, and are killed by the vapor of vinegar. They are then dried in stoves, and immediately put into air-tight boxes, containing a little sulphate of lime or camphor.

Properties.—The action of the cantharides, applied externally, is confined principally to the skin; their active principles, however, may be absorbed, and cause stranguary, hematuria, priapism, &c. Taken internally, they act as a most energetic, acrid poison, and seem to have a determination to the urinary organs, which they stimulate violently. They are employed by some practitioners as a stimulating diuretic in the treatment of incontinence of urine, gleet, impotence, &c. I have occasionally applied them with benefit as a blister in pneumonia and fever, but make little use of them otherwise.

EMOLLIENTS.

THE EGG.

(Ovum.)

The egg of the *Phasianus gallus*, or domestic hen, may rank in this division of the materia medica.

Properties and Uses.—Eggs are a mild and nutritious article of diet, and as such are frequently used in the sick-room. The white or albumen is employed as an antidote in poisoning with corrosive sublimate, or with the salts of copper; it is also useful in all cases of irritant poisoning. The yolk is employed in pharmacy for suspending camphor, oils, resins, &c., in aqueous vehicles.

SEDATIVES.

CHLOROFORM.

(Carbonis Chloridum.)

Preparation.—Chloroform or chloric ether is obtained by distilling in a capacious retort four pounds of chloride of lime in powder with twelve pounds of water and twelve ounces of rectified spirit. These articles are mixed and distilled as long as a dense liquid, which sinks in the water with which it comes over, is produced. The process is attended with danger, from the swelling up of the ingredients when heat is applied. The product obtained by the foregoing process should be rectified by agitating it with several portions of strong oil of vitriol, and afterward distilling it from carbonate of baryta.

Description.—When pure, it is a dense liquid, having a specific gravity of 1·480, and a sweet taste. It is soluble in alcohol, and in this form it is usually employed in medicine. That found in the shops is a mixture of the above with six or eight parts of rectified spirits.

Properties and Uses.—The operation of chloroform is that of a decided sedative, whether it be administered internally or employed as a local application. It has been used with advantage in asthma, spasmodic cough, and in cancerous and other painful diseases. In the treatment of cancer, it has been extensively employed by Dr. Tuson, of the Middlesex hospital, London, and it is spoken of by him in the most extravagant terms, both as a local application to open cancer of the breast, and as an internal remedy to relieve pain and procure sleep.

When thirty or forty drops of chloroform are sprinkled upon a handkerchief and inhaled, a state of pleasurable mental excitement is commonly caused, attended by a sensation of lightness or fullness of the head, whizzing noise in the ears, and indistinctness of vision. This may be accompanied by a tendency to muscular action, and there is at the same time partial insensibility to pain. If the dose is increased, or, in the same dose, if the patient be susceptible to the influence of chloroform, he loses his consciousness, his ideas become incoherent and extravagant, though still pleasurable; there are occasionally violent muscular efforts, and the pulse is increased in frequency. These symptoms are of but short duration, soon giving way to an apparently tranquil sleep, during which the muscles are completely relaxed, and the patient is perfectly insensible to the pain of the severest operations. Sometimes in this stage the breathing may be slightly stertorous, or the pulse slower than natural. Vomiting, too, may occur, particularly if the patient has shortly before taken food. If the inhalation be discontinued, the patient in the course of a few minutes either rapidly recovers his ordinary condition, remains for some time in a soft sleep, or is for a short period in a dreamy, half-intoxicated state.

The inhalation of chloroform has been employed—1. To relieve the pain of surgical operations and to afford ease in various painful diseases, as neuralgia, &c. 2. To produce muscular relaxation in the reduction of dislocations, in fractures, and in various spasmodic diseases, tetanus, &c. 3. To relieve various convulsive and spasmodic affections, hydrophobia, asthma, and convulsions. 4. To induce sleep in mania, delirium tremens, and similar affections. 5. To relieve the pains of parturition. For some of these purposes the patient has often been kept under its influence for four hours consecutively without any evil consequences ensuing.

Before administering chloroform in this manner, it is necessary to ascertain that the patient is not laboring under any organic affection of the heart or lungs. It should always be given by a medical man, whose business it should be to attend to the chloroform alone, and who should be ready on decided flagging of the pulse in force or frequency, or the supervention of stertor, or on the occurrence of any decided change in the color of the patient, at once to remove the chloroform and permit the free access of air.

"It has long ceased to be a question," says Dr. Curling, of the London hospital, "whether chloroform possesses the power of preventing and annulling pain. Countless operations, many of them productive, under other circumstances, of pain of the most intense character, have been performed on persons under the influence of this agent, without their experiencing the slightest suffering. . . . . Powerful as this remedy unquestionably is, all who are experienced in its use agree that upon the whole it is safe and manageable; and this safety peculiarly depends on the transitory and evanescent nature of its influence; for, from the moment it ceases to be inhaled, it begins to pass off rapidly from the system in expiration, and its influence declines; so that whatever risk may be incurred by its rash, careless, and unnecessary use, scarcely any apprehension need be entertained from its skilful and cautious administration. As in using other active remedies, no one should give chloroform vapor without having carefully studied its effects on the human body. In operations, especially the more important, the surgeon should be relieved from all care and responsibility connected with the inhalation, and his mind left free to be directed solely to the steps of the operation. In these cases the administration of anæsthetic agents should, if possible, be intrusted to a person who by practice has acquired a nice perception of their action, and a full knowledge of their powers and varying effects, so as to be able to produce and maintain their influence in a proper degree, until the operator has ceased to use the knife, or to subject his patient to pain.

"When thus applied by skilful practitioners, anæsthetic agents must ever be prized, not only for their perfect power of annulling pain in all its varieties and degrees of intensity, but still more for their remedial influence in relaxing muscles, lessening constitutional disturbance, and diminishing the mortality of operations."

EXTERNAL APPLICATION.

Numerous experiments made in both Europe and America with this most astonishing agent, have very conclusively established the efficacy of its external use, not only in lumbago, but in numerous other nervous diseases. A case of the most distressing facial neuralgia was immediately and permanently relieved by a single application of chloroform. Equal success in neuralgic pains in other parts of the body, and in cases of intolerable earache, has attended its use. A brief account of some of the cures reported by M. Moreau, of Tours, may prove interesting:—

"1. Lapeniere, epileptic, aged nineteen years, of lymphatic temperament, was seized about three weeks ago for the first time, with lively pains in the loins. The pains soon became intolerable, and even extended into the left thigh. A large piece of batting, moistened with chloroform, was applied *loco dolenti*. The pain disappeared entirely in the course of twenty-five minutes, and has not since reappeared.

"2. A man, aged fifty-nine years, who had suffered from repeated attacks of articular rheumatism, was suddenly seized, on the evening of the 21st ultimo, with a most violent lumbago. The pain was felt principally in the left loin and hip. The least change of position or movement produced the most excruciating suffering; difficulty of respiration excessive; chilliness, general perspiration; considerable febrile reaction; tongue loaded. On the morning of the next day, chloroform was applied in the usual manner, and relief obtained in twenty or thirty minutes."

The third case, the termination of which is equally satisfactory, is of greater value than either of the others, from the fact that the pains to which the patient was very subject, almost invariably lasted from fifteen days to a month. Under the use of chloroform, he was completely relieved of them in three days:—

"3. M. Trubin, of robust habit, but subject for many years past to rheumatismal pains, the seat of which was especially in the region of the kidneys, was seized with one of these pains, which was very intense, and occupied the right lumbar region, whence it reached to the hip and thigh of the same side. The slightest movement augmented it very greatly; the patient walked with great difficulty, dragging his leg. Pressure produced no pain at any point. Twenty-four hours after the appearance of the disease, chloroform was applied over the seat of the pain. Its usual effects were produced: the patient experienced a smarting sensation, and the skin reddened. In the evening a very sensible amelioration had occurred. The next day the pain had disappeared; there only remained a feeling of numbness and weight in the regions which the evening before had been painful. The next day, the third from the first application of the chloroform, the cure was complete. The skin desquamated over the points touched by the chloroform."

We may here make a remark which is of some importance in a therapeutical point of view. It is necessary to act promptly and with vigor; this is the price of success. The more recent the lumbago, the greater are the chances of cure. It is equally important not to be sparing with the chloroform. M. Moreau seldom employs less than from one to two ounces, and he also contrives that the batting shall cover as nearly as possible the whole of the painful part. After the application of the chloroform, the patient must be put to bed, and covered in such a way as to protect him almost entirely from the action of the anæsthetic vapors.

Dr. Higginson communicated to the Liverpool Medical and Pathological Society the case of a lady, aged twenty-five years, in labor with her first child. The perineum had long been on the stretch by the head, which was tumefied by the pressure; the pain was great with each uterine contraction, but was referred entirely to the perineum, no pain being apparently felt from the uterine contraction itself.

About half a dram of chloroform was poured upon a handkerchief in the ordinary manner, but instead of being applied to the mouth, it was held in almost immediate contact with the perineum. The pain immediately ceased, though the uterine contractions continued in full force; and the first intimation the patient had of the progress of the labor was hearing the child cry. Her mind was not at all affected, nor was intellectual consciousness in any degree diminished.

Dr. Higginson had observed the same thing, though in a less degree, when the chloroform had been applied to the sacrum in another case. He had also applied this agent to the os uteri of a patient suffering from very severe dysmenorrhœa, by means of a sponge placed in a curved glass speculum, which was introduced into the vagina. The pain almost immediately abated, and on its return, after some hours, the patient reapplied it herself with similar benefit.

Dr. Watson, of London, mentioned some cases confirmatory of its good effects when locally applied. He had painted it over a swelled testicle, with speedy relief to the patient; and had applied it along the course of the spine with a similar result in a case of acute spinal tenderness, which had not been relieved by other treatment. He had also applied it to the surface of a large mammary abscess, prior to opening it, which was afterward done without suffering to the patient; and also to the vulva of a woman before cauterizing the orifice of the urethra. It had relieved the cramp and collapse in a case of English cholera when laid upon the epigastrium, and had abated the pain almost immediately when painted round the edge of a surface to which potassa fusa had been applied for the purpose of forming an issue.

Dr. Hays, of Philadelphia, employed chloroform to produce local anæsthesia, with the most happy effects, in a case of neuralgia, occurring in a gentleman fifty years of age, who had been for a long time a sufferer from neuralgia of the foot, in which all the remedies that had been previously used failed to produce relief. The affected parts were enveloped in a pledget of lint, or a few folds of muslin, wet with chloroform, and the whole covered with a portion of oiled silk, to prevent evaporation. On the next morning the patient was entirely free from pain. It was afterward proved that an arrest of the paroxysm was always accomplished by the application of the chloroform; and by the use of the article, several other similar cases have been attended with like results.

In pharmacy, chloroform, like ether, may be advantageously made use of to extract the virtues of many medical agents. The following is an elegant preparation:—

CAMPHOR AND CHLOROFORM MIXTURE.

Messrs. T. and H. Smith, chemists of Edinburgh, give a formula for exhibiting camphor, in doses of almost any amount of strength—certainly as large as any case can require—and that in a state of perfect solution; thereby allowing of a nice adaptation of the dose to the circumstances of each case. The formula is as follows:—

Three drams of solid camphor are dissolved in one fluid dram of chloroform. This is perhaps one of the most remarkable cases of solution which the whole range of chemistry presents to us. The solution is most rapid and complete, and the bulk of the liquid is now increased from one to fully four fluid drams. This solution, rubbed up with the yolk of one fresh egg, may be formed into an extremely elegant emulsion by the addition of water, without the slightest separation of the camphor or chloroform; in fact, no separation of any kind takes place. If to the proportions given above, as much water be added as to make a four-ounce mixture, each teaspoonful of the mixture, when formed, will contain about five and a half grains of camphor, and about two drops of chloroform. This mixture can be administered in any ordinary vehicle, such as water, without the occurrence of any separation.

SULPHURIC ETHER.

(Æther Sulphuricus.)

Description.—Ether is a transparent, colorless, very mobile liquid, with a fragrant, penetrating odor, and a pungent, aromatic taste, leaving a sense of coldness on the tongue and palate. Its specific gravity is about ·750. It is extremely volatile; it boils between 96° and 98°; is highly combustible, burning with a white flame, and the formation of carbonic acid and water. Great cold is produced by its evaporation. When recently prepared, ether is perfectly neutral, but soon becomes acid by keeping. One part of ether dissolves in 10 parts of water, while 36 parts of ether dissolve 1 of water; it combines in all proportions with alcohol. It dissolves most resins, the volatile oils, and many of the vegetable alkaloids.

Properties and Uses.—Ether, when taken internally, acts as a general diffusible stimulant; its effects, which are rapidly produced, are equally transient. "As a stimulant," says Neligan, "ether is chiefly employed in spasmodic and nervous affections unaccompanied by inflammation; thus, it is employed with benefit in cramp of the stomach, in spasmodic or flatulent colic, in nervous palpitations, in hiccough, in nervous headache, during a paroxysm of spasmodic asthma, &c. It is also administered frequently with good effect in the advanced stages of fever when subsultus tendinum and hiccough are present; and as an immediate stimulant in fainting and asphyxia. In the employment of ether as a stimulant, the transient nature of its operation should be borne in mind, and consequently that the doses require to be repeated at short intervals. The influence of ether over the system is much diminished by habit: therefore it should be administered to those who are accustomed to its use, in much larger doses." Applied externally, its action is refrigerant, owing to the cold produced by its immediate evaporation. In this manner it has been used with friction as a local stimulant in rheumatic and neuralgic pains. In very large doses it is a narcotic poison, producing death with symptoms similar to those caused by alcohol. Ether is employed in pharmacy to extract the active principles of many medicines.

Employment.—The doses are from half a dram to two drams. It is usually administered in some aromatic water. Ether may be readily incorporated with water or any aqueous vehicle by rubbing it up with spermaceti, employed in the proportion of two grains for each fluid dram of the ether. The vapor of ether, disengaged by adding it to some warm water, is inhaled in spasmodic affections of the respiratory organs.

ETHEREAL OIL.

(Oleum Æthereum.)

Preparation.—Take what remains in the retort after the distillation of sulphuric ether, and distil down to one half with a moderate heat; or, in other words—

Take Rectified Spirit, 2 pounds;
Sulphuric Acid, 4 pounds;
Solution of Potash and distilled Water, of each 1 fluid ounce—

or as much as may be sufficient: mix the acid cautiously with the spirit. Let the liquor distil until a black froth arises; then immediately remove the retort from the fire, separate the lighter supernatant liquor from the heavier one, and expose the former to the air for a day; add to it the solution of potash first mixed with water, and shake them together. Lastly, when sufficiently washed, separate the ethereal oil which subsides. This preparation is only employed as an ingredient in the following compound, which is usually known as—

HOFFMAN'S ANODYNE LIQUOR.

(Spiritus Ætheris Sulphurici Compositus.)

Take Sulphuric Ether, 8 fluid ounces;
Rectified Spirit, 16 fluid ounces;
Ethereal Oil, 3 fluid drams.—Mix.

Properties and Uses.—This is used in nearly the same cases as sulphuric ether, but its properties are more decidedly anti-spasmodic. The dose is from half a dram to two drams. It mixes with water in all proportions. This preparation is often prescribed in combination with laudanum, the disagreeable subsequent effects of which it is said to prevent.

In cases of poisoning with ether, the stomach-pump should be immediately had recourse to; cold affusion, and the most powerful internal and external stimulants, assiduously employed. In extreme cases, artificial respiration should be effected.

INHALATION OF ETHER.

History.—The vapor of ether was first exhibited for the prevention of pain in surgical operations in this country. There are several claimants for the honor of this discovery; but the chief merit of its introduction appears to be due to Dr. Morton, a dentist practising in Boston. This gentleman, while engaged in experiments made for the purpose of obviating pain in surgical operations, communicated the object of his inquiries to Dr. Jackson, a lecturer on chemistry, who suggested a trial of sulphuric ether. Dr. Morton, availing himself of this hint, experimented with ether with perfect success in regard to the object he had so long had in view; and having constructed a suitable apparatus for administering the vapor, he communicated the results of his inquiries to Dr. Warren, surgeon of the Massachusetts General Hospital, who, after satisfying himself of its efficacy, introduced the practice into the hospital, and performed the first important operation under its influence. Etherization was resorted to for the first time in England by the late Dr. Liston in December, 1846, in the amputation of a thigh at the University College Hospital, London. It has since been employed in all the large hospitals of Great Britain, France, Germany, and Italy.

"While ether, when skilfully administered," said Dr. Curling, before the Hunterian Society, London, "can accomplish all that may be effected by chloroform, the latter has many important advantages; being less pungent and more agreeable, possessing greater power, and consequently operating more quickly and with greater certainty, and with a much smaller consumption of fluid, and also being easier and simpler of application. For these various reasons, chloroform has been very generally substituted for ether. But there are certain cases in which a preference is to be given to ether. Chloroform has a greater tendency to produce involuntary muscular contraction, and exerts also a more direct and powerful influence on the heart than ether. In those cases, therefore, in which we desire chiefly to obtain muscular relaxation, and in persons whose powers are much depressed, it may be advisable to employ ether. The latter agent is perhaps better suited also for those cases in which we desire to prolong the insensibility to pain, as its influence is less transient than chloroform, and more readily rendered persistent."

COLLODION.

RECENT improvements with ether have led to the discovery of *Collodion*, which is a solution of cotton in ether, making one of the most efficient and valuable applications for uniting wounds by the first intention which perhaps has ever been known to the surgeon. Stitching wounds, forcing pins through the cut edges in harelip operations, &c., may all be dispensed with in future; and not only in these cases, but in a multitude of others, where the common adhesive straps have been used imperfectly, the collodion will doubtless hereafter be universally used and prized. Its peculiar properties may thus be summed up:—

1. By its powerful contraction, upon evaporation, it places the edges of an incised wound in much more intimate contact than is obtained by sutures and adhesive cloth; unites them by equal pressure throughout the whole extent of the wound, and maintains them immoveably fixed.

2. It preserves the wound perfectly free from contact with the air—being impermeable to the atmosphere, while its adhesion to the skin is so intimate as to preclude the possibility of the air entering beneath its edges.

3. The substance remaining in contact with the skin and wound, after the evaporation of the ether, seems to be entirely inert so far as any irritating property is concerned, and this can hardly be said of any resinous adhesive cloth or preparation.

4. It does away with the necessity for sutures in incised wounds of almost any extent.

5. It is sure to remain in intimate contact with the skin until the union is complete; and, being quite impervious to water and presenting a polished surface, it allows the surrounding parts to be washed without regard to the wound or dressing.

6. It is colorless and transparent, thus permitting the surgeon to witness all that goes on beneath, without involving the necessity for its removal.

7. No heat is necessary for its application, and the presence of any slight degree of cold is only objectionable in retarding the evaporation of the ether.

8. It may be made at a trifling cost: an ounce vial, intrinsically worth little, being sufficient for a great number of dressings.

It is not incised wounds alone which are amenable to its use, though the mode of its application to a stump, or an ulcer, or any wound involving an extensive loss of skin, must be modified.

It is of the first importance that this preparation be properly made and applied. The process for the application is very simple:—

For straight incisions of *whatever length*, provided the edges can be brought together without great difficulty, it is better to apply the solution in immediate contact with the skin—as follows: The bleeding should be arrested, and the skin thoroughly dried. If the lips of the wound are themselves in contact, the surgeon has only to apply a coating of the solution lengthwise over the approximated edges, by means of a camel's-hair pencil, leaving it untouched after the brush has once passed over it, till it is dry, during perhaps ten or twenty seconds. This first film will, of itself, have confined the edges together; but, in order to increase the firmness of the support, more must then be applied in the same manner, allowing it to extend on either side of the incision half an inch or more. If, however, the wound gapes, an assistant is required to bring the edges in contact and retain them so, while the application is made. If the incision is so long that the assistant can not place the edges in apposition throughout the whole extent, begin by covering a small portion at the upper end, and apply the solution to the lower parts as fast as it becomes dry above. In this case, something more than the film which is left adherent to the skin will be necessary for a safe and proper support to the wound, which may have a tendency to separate. The transparency of the dressing may still be maintained by adapting a piece of goldbeater's skin or oiled silk to the wound. This should be covered with the solution, and the membrane applied, after the coating is on and already contracted. A dossil of lint, or a strip of cloth, or even a piece of tissue-paper, which is thus rendered tough and water-proof, will answer the same purpose, though not transparent. Where there is much separation, it is better to fortify the wound in this way at once, and as fast as the first coating is applied and dry.

"In chilblains," says Dr. C. Green, in the Buffalo "Medical Journal," "I have used collodion with the most decided success. In one case, the patient had her feet for some time exposed to severe cold, which produced an erythematous inflammation of several of the small toes. They were swollen, red, tender, and itching. I completely enveloped them in a thick coating of collodion, and the contraction which took place on its drying, produced so much compression of the vessels, that the toes were as pallid as frozen ones. The pain and itching were immediately relieved, and in twenty-four hours these members were nearly well. I have also cured pernio of the heel with this article, but I do not believe it a panacea for all cases of chilblain, even in its erythematous stage."

STIMULANTS.

ALCOHOL.

Description.—Absolute alcohol is of the density of 794·6. It is a transparent, colorless liquid, with a pungent, rather agreeable odor, and an acrid, burning taste. Its density varies with the quantity of water it contains. It boils at 173°; it is very volatile, and is highly inflammable, burning with a pale-blue flame, free from smoke, water and carbonic acid being the products of its combustion; it has never been frozen. It attracts water from the air, and therefore becomes weak if kept in an imperfectly-closed vessel. It will mix with water in all proportions—a disengagement of heat, a diminution of bulk, and an increase of density, accompanying their union.

RECTIFIED SPIRIT.

(Spiritus Rectificatus.)

This is an adulterated article of alcohol, being of the specific gravity of about ·838 at 60° Fahr. The rectified spirit of commerce frequently contains *oil of grain*, a contamination derived from the corn during the process of distillation. Its presence is readily detected by the test of the Edinburgh pharmacopœia: "Four fluid ounces treated with twenty-five drops of solution of nitrate of silver, exposed to a bright light for twenty-four hours, and then passed through a filter purified by weak nitric acid, so as to separate the black powder which forms, undergo no further change when again exposed to light with more of the test." The same test is applicable to both alcohol and proof spirit. Rectified spirit is employed in pharmacy in the preparation of many medicines.

PROOF SPIRIT.

(Spiritus Tenuior.)

This is also a preparation of alcohol, an article of the materia medica made use of in the solution and compounding of remedial agents; but as met with in commerce it is unfit for medical use, in consequence of its containing essential oil. It is therefore directed to be prepared by mixing five and one fourth parts *by measure* of rectified spirit with three parts *by measure* of distilled water at the temperature of 60° Fahr. Its specific gravity at 60° should be about ·920.

Properties.—Alcohol dissolves the caustic alkalies and alkaline sulphurets; it also dissolves all the deliquescent inorganic salts, except carbonate of potash, but none of the salts which are insoluble or sparingly soluble in water, nor efflorescent salts. It likewise dissolves many vegetable substances, as all essential and most fixed oils, the vegetable alkaloids, sugar, resins, extractive, &c., for many of which purposes it is employed in pharmacy. It prevents the putrefaction of animal substances which are immersed in it, and hence its use in the preservation of anatomical preparations.

Alcohol is the intoxicating principle of all spirituous liquors. In moderate doses properly diluted it acts as a general stimulant, exciting particularly the vascular and nervous systems; in somewhat larger doses it produces the well-known effects of intoxication; and in excessive doses it acts as a powerful narcotic poison, rapidly producing death, preceded by slow pulse, contracted pupils, and coma. This effect is most usually observed when a large quantity of ardent spirits has been drank at once. As a stimulant, alcohol is employed in medicine to support the vital powers in the advanced stages of fevers, particularly those of a typhoid character; for this purpose brandy or whisky are usually employed, but wine is generally preferred. It is also often used in flatulent colic, in indigestion, in vomiting, and in fainting. As an external stimulant, it is a common ingredient in lotions, for sprains and bruises, for many forms of external inflammations, as erysipelas and erythema, for various skin-diseases, to prevent excoriations in parts exposed to prolonged pressure, and with friction over the region of the heart in syncope and suspended animation. Diluted with six parts *by measure* of water, it has been used as an injection after tapping for the radical cure of hydrocele. In consequence of its producing cold by evaporation, alcohol is frequently added to cooling and evaporating lotions.

Employment.—In fevers, brandy or whisky is given in the form of punch; the quantity which should be given depends so much on the circumstances of each particular case, that it would be impossible to lay down here any general rule. Neligàn states that in the fever which proved so fatal to the "British Legion" in Spain in the year 1835, Dr. Lardner frequently gave as much as thirty-two ounces of brandy in the twenty-four hours.

In poisoning with ardent spirits, the contents of the stomach should be immediately evacuated by means of a powerful emetic, and external stimulants, especially the cold affusion, assiduously employed. The coma of ordinary intoxication is best treated by the internal use of ammonia, or of the solution of the acetate of ammonia. If apoplectic symptoms be present, cold lotions to the head, the application of leeches to the temples, and warmth to the extremities, will be found useful remedies.

WINE.

(Vinum.)

Description.—Wine is a transparent liquid, of a yellowish, reddish-yellow, or deep-red color. It has a peculiar, agreeable odor and taste, although both odor and taste vary exceedingly. It consists of water, alcohol, tartaric and acetic acids, bitartrate of potash, tartrate of lime, extractive matter, coloring matter, vegeto-animal matter, and a peculiar volatile oil or rather ether, which has been named *œnanthic ether.* In the white wines, tannin and coloring matter are in less proportion than in the red wines. The quantity of alcohol which is present in wine differs very much, some of the weaker German wines containing only 6·90 per cent. by weight of alcohol, while strong port wine (from *Oporto*, in Portugal) contains 17·10 per cent.

Properties.—Wine is an excellent stimulant in the advanced stages o typhoid fevers, being generally better suited for this purpose than any othe alcoholic liquid. Its use is particularly called for where delirium is present with much sinking of the vital powers, and when the nervous symptoms (a singultus, subsultus tendinum, and sleeplessness, unaccompanied by any loca inflammation or congestion) predominate. The use of wine in fever is no contra-indicated when the tongue is dry, black, or red, when the eyes ar red or suffused, or when there is morbid heat of the surface; as it often proves of great benefit when one or even more of these symptoms are present. Wine is also given with much advantage in convalescence from acute diseases, in chronic debility, especially when it is caused by excessive discharges, in mortification unaccompanied by inflammatory symptoms, and in tetanus. When any local congestion or inflammation is present or may be apprehended, the administration of wine in the treatment of disease is for the most part calculated to do mischief. Although sherry is the only wine officinal in the pharmacopœias, port is generally employed in medicine; claret and Madeira are also used. When its greater strength and its astringency are not objectionable, port wine, when pure, is always to be preferred. Madeira and claret are often inadmissible on account of their acidity; but when this is not the case, the former is well adapted for debilitated or broken-down habits; the latter when the employment of stronger wines might prove injurious. Sherry is chiefly employed in the preparation of the medicated wines but cape wine, on account of its cheapness, is usually substituted by the druggists of England. In a dietetical point of view, sherry is the wine in most general use, and is likewise the one calculated to agree best with most constitutions.

Employment.—The quantity of wine which should be administered in the treatment of disease varies so exceedingly in different cases, that it is almost impossible to lay down any general rule on the subject. From eight to twenty fluid ounces is the quantity usually given in the twenty-four hours, and it should be borne in mind that there is a great tolerance of wine in disease. As an injection for the radical cure of hydrocele, two thirds of port wine are diluted with one third of water.

Adulterations.—The only adulterations of wine which are of importance with reference to its medicinal employment, are the additions of lead or lime, which are sometimes used for the purpose of correcting acescency. The former is detected by the black precipitate which is produced on the addition of sulphuretted hydrogen; the latter by the white precipitate formed with solution of oxalate of ammonia. English port is sometimes made of a small portion of real port mixed with cider, juice of elder-berries, and brandy, colored and rendered astringent with logwood and alum. In the United States, of latter years, the cheapness of genuine wines has left little motive for manufacturing these factitious imitations. The wines most frequently imitated are port and Madeira, and cider is the chief spurious ingredient.

SPIRIT OF AMMONIA.

(Ammoniæ Spiritus.)

Description.—This is a transparent, colorless liquid, with a pungent ammoniacal odor, and an acrid taste. It is very volatile, and acts as an alkali on vegetable colors. The Dublin and London preparations effervesce with the stronger acids. Its specific gravity is ·860.

Properties and Uses.—This is a stimulant of some power, and may be used as such in the same cases as the aqueous solution of the gas, or of the sesqui-carbonate. The dose is from one half to one and a half fluid drams in some aromatic water, or in camphor-mixture. It is generally employed in the following form:—

AROMATIC SPIRIT OF AMMONIA.

(Spiritus Ammoniæ Aromaticus.)

Take Spirit of Ammonia, by measure, 3 pounds;
Essential Oil of Lemons, 2 drams;
Nutmegs, bruised, ½ ounce;
Cinnamon, bruised, 3 drams.

Macerate in a close vessel for three days, shaking occasionally; then distil one and a half pounds. This is an excellent and agreeable stimulant in fainting, hysteria, nervous debility, and flatulent colic. The dose is from thirty drops to one fluid dram in distilled water or in camphor-mixture.

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YEAST.

(Cerevisiæ Fermentum.)

Description.—Yeast, or barm, is a vegetable product developed in vinous liquids during the process of fermentation. It is employed as a stimulant in the advanced stages of typhoid fevers, and in the form of enema in tympanitis, and has been highly spoken of in cases where wine is inadmissible in consequence of inflammatory symptoms.

Properties and Uses.—Its principal use at present is for the preparation of a stimulating cataplasm for foul and irritable sores, the fetor of which it corrects, and at the same time promotes the separation of the sloughs. It has been used in some parts of Europe with great benefit as an application to recent bruises: it is simply spread on lint, and the injured parts covered with it; the sooner it is applied after the accident, the more prompt and certain are its effects.

◆

SALT.

(Sodii Chloridum.)

Description.—Common salt crystallizes in transparent, colorless cubes; it has an agreeable saline taste, but no odor. Its density is 2·557.

Properties.—Taken internally in moderate quantities, salt acts as a mild stimulant to the digestive organs, promoting the assimilation of the food; on which account, as well as in consequence of its agreeable flavor, it is used generally by man in all parts of the world, as an adjunct to nearly every substance employed by him as an article of diet. It is also said to prove serviceable to the alimentary canal, inasmuch as it prevents the generation of intestinal worms, to which those who use little or no salt with their food are very subject. In somewhat larger doses it acts as a mild cathartic, forming a principal ingredient in many mineral waters, in which it augments the operation of the other laxative salts. It also proves emetic in doses of one or two ounces; and in one instance, a pound of it taken at once has occasioned death with all the symptoms of irritant poisoning. Applied to the surface of the body, it acts as a local stimulant, producing rubefaction.

Salt is not much employed in medicine. As an emetic, it may be administered in narcotic poisoning in the absence of other substances; as a cathartic, it is not given alone, but is advantageously combined with the other saline cathartics; as an anthelmintic, a strong solution has been injected into the rectum to destroy ascarides; as a general stimulant, it is used in some forms of dyspepsia, and in scrofulous and other glandular enlargements; and as a topical agent it is added to both hot and cold baths, when they are intended to act as local stimulants. A saturated solution of common salt is employed with much success as a lotion in chronic granular ophthalmia. In cholera and some other diseases in which the saline constituents of the blood are deficient, a solution consisting of two drams of the muriate, and two scruples of carbonate of soda, dissolved in sixty fluid ounces of water, has been injected into the veins, but the results were not more successful than those which followed the other methods of treatment.

Employment.—As a stimulant, the dose is from ten grains to a dram; as an emetic, from one to two ounces, dissolved in a pint of water. For baths, one or two pounds may be added to from three to five gallons of either cold or warm water.

Salt, dissolved in the best quality of brandy, is an excellent remedy for sore throat and all kinds of ulcers; it may likewise be employed to disperse scrofulous and other swellings, fistula, tumors, wens, &c. A teaspoonful taken frequently is useful to check internal hemorrhage of every description, and, applied externally, to arrest bleeding from wounds. It is also good for fevers, dyspepsia, &c.

Dr. G. W. Bond, a botanic physician of this city, prescribed salt, mixed with vinegar and hot water, with great success in the treatment of cholera in the year 1832, and recommends it strongly in most complaints of the stomach, in the following proportion: common fine salt, a tablespoonful; pure cider-vinegar, two tablespoonfuls; boiling water, half a pint. The whole is to be taken immediately, and as hot as possible. In half an hour give an injection of the same preparation, about a pint in quantity, sweetened with molasses. Repeat this as occasion requires. For children, sweeten with loaf-sugar, and administer often according to their age, from a teaspoonful to a tablespoonful.

Incompatibles.—Nitrate of silver.

SAL-AMMONIAC.

(Ammonia Hydrochloras.)

Description.—This salt is found in nature, principally in the vicinity of volcanoes. Mount Etna furnishes it in considerable quantities. It is procured by the manufacturers on the large scale, by decomposing the sulphate of ammonia which is formed in the manufacture of coal-gas, or from the carbonate of ammonia obtained by the distillation of bones. In either case, the decomposing agent employed is common salt (chloride of sodium). It is permanent in the air; exposed to heat, it sublimes unchanged. It is soluble in 2·72 parts of water at 60°, and in its own weight of boiling water; it is also soluble in alcohol. During its solution in water, a great degree of cold is produced. This salt is best characterized by the evolution of gaseous ammonia, which takes place when it is rubbed in a mortar with quicklime.

Properties.—As a topical remedy, sal-ammoniac is very generally employed as an ingredient in discutient lotions, and, in consequence of the cold produced during its solution in water, as an external refrigerant. In this respect it is used as a cooling application for various kinds of inflammation, and especially for erysipelas and inflammatory rheumatism.

Muriate of ammonia, in combination with a decoction of wormwood, forms an excellent application for inflammations resulting from sprains or contusions. It should be applied warm. In inflammation of the brain, a wash made of sal-ammoniac, vinegar, and water, is very useful in allaying the heat of the head.

Employment.—It may be dissolved in water, or in vinegar in the proportion of from two drams to half an ounce of the salt in a pint of liquid, to which rectified spirit is generally added. A refrigeratory mixture may be prepared by dissolving five parts each of this salt and of nitre in sixteen parts of water, which will reduce the temperature forty degrees. If an over-dose be taken, vomiting should be promoted by the use of mucilaginous and demulcent drinks.

Incompatibles.—Sulphuric and nitric acids, potash, soda, lime, magnesia, and their carbonates, and most metallic salts.

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COFFEE.

(Coffea Arabica.)

History.—It is said that an Arabian shepherd, about the sixth century, having observed the goats of his flock, as often as they browsed upon the coffee-fruit, to skip about and display other signs of intoxication, was induced to try the effects of the berry upon himself, and thus discovered its exhilarating property. The tree is a native of southern Arabia and Abyssinia, and is found growing wild at Liberia, on the western coast of the African continent. Considerable attention has long been paid to its culture in its native country, particularly in Yemen, in the vicinity of Mocha, from which the demands of commerce were at first almost exclusively supplied. About the year 1690, it was introduced by the Dutch into Java, and in 1718 into their colony of Surinam. Soon after this latter period, the French succeeded in introducing it into their West India islands, Cayenne, and the isles of France and Bourbon; and it has subsequently made its way into the other West India islands, various parts of tropical America, the peninsula of Hindostan, and Ceylon. The tree is raised from the seeds, and transplanted at a suitable size; they continue bearing for thirty or forty years.

The character of coffee varies considerably with the climate and mode of culture. The *Mocha coffee*, which is in small and roundish grains, takes precedence of all other varieties, but very little of it is now imported into Europe or America. The *Java coffee* is generally esteemed most highly in this country, and commands the highest price; but our chief supplies are derived from the West Indies and South America. Some good coffee has also been recently imported from the African republic of Liberia. Coffee is thought to improve by age, losing a portion of its strength, and thus acquiring a more agreeable flavor. It is much better when allowed to become perfectly ripe upon the tree, than as ordinarily collected. The grains should be hard, and so heavy as readily to sink in water. When soft, light, black or dark colored, or musty, they are inferior.

Properties and Uses.—The exhilarating effects of coffee, united with its delicious flavor when suitably qualified by cream and sugar, have given rise to its habitual employment as an article of diet. Its use for this purpose has prevailed from the earliest periods of history in Persia and Arabia. In 1517 it was introduced by the Turks into Constantinople, whence it was carried to France and England about the middle of the succeeding century. From its strong and excessive use by the French, particularly the Parisians, it has been supposed to be injurious to the complexion, and this belief prevented its general introduction into Germany, Poland, and some other European countries, until about a hundred years later. Since that period its use has been gradually extended throughout the civilized world. The superiority claimed for this beverage, as prepared among the oriental nations, is strongly denied by an intelligent English author, who recently visited Constantinople.

The common infusion of coffee is found to be a stimulating tonic which is a useful addition to the materia medica. Dr. Pickford, of England, states that, "from the great importance which attaches to the treatment of cholera, he feels it to be incumbent upon him to impart to others the experience which recent opportunities have afforded him of the effects of *coffee* in the cholera of infants.

"In the case of an infant at the breast, to which he was called late, to whom the usual remedies had been administered unavailingly for four days, the exhibition of coffee was attended with complete success. The incessant vomiting and purging had produced extreme emaciation, the abdomen was distended, and the pulse frequent and small; there was great restlessless, and sleeping with the eyes half opened, and convulsive motions of the eyes when awake. Carbonate of ammonia, with nourishing diet, and external stimulants, having been fruitlessly exhibited, Dr. Pickford determined to have recourse to coffee, which he knew to have been recommended as a stimulating tonic by Dr. Dewees, of Philadelphia. He began with a small dose, a scruple infused with two ounces of water, with one ounce of sirup, giving a large spoonful every hour. The effect was surprising: the vomiting was arrested, and the evacuations became more consistent, improved in color, and less frequent. The amendment progressed so rapidly, that by the tenth day the child was discharged as cured.

"The effects were equally good in a little girl fourteen weeks old, in whom the vomiting was not so severe, but the diarrhœa was quite as copious. In this case also the coffee was given, after other means had been tried, and the patient greatly reduced."

Dr. Pickford has since used this remedy in children of different ages, from four weeks to two years and a half. The doses varied from half a scruple to two scruples daily. He also administered it to children laboring under premonitory symptoms, especially where the evacuations had been very light-colored. The effect was always favorable, except in one case, and in that he was called too late.

The benefit of coffee, especially in bilious diarrhœa, has been extolled by Lauzow and Chultze in the first volume of "*Richter's Arzneimittellehre.*" West, in 1813, found a combination of coffee and opium very useful in the epidemic of that year. Coffee has long been employed by the common people of Germany as a remedy after excessive indulgence in spirit-drinking. It is known to have the property of promoting digestion, and accelerating the action of the bowels. A cup of coffee taken after a hearty meal will often relieve the sense of oppression so apt to be experienced, and enable the stomach to perform its office with comparative facility.

The purgative action of burnt coffee is attributed by Dr. Pickford to its tonic exciting properties. Like some other substances, in small doses it is capable of restraining diarrhœa, while in large quantities it acts as a cathartic. The physiological explanation of this opposite effect of the same remedy is probably to be found in the condition of the motor nerves, which, being weakened, are by its moderate stimulus restored to their normal state of excitement, and thereby diarrhœa depending on their paralysis is cured. In this way also is explained its aperient action in larger doses on adults, by its over-stimulating these nerves, and so promoting increased movement of the intestines. If taken in very large quantities, it leaves, after its first effects are passed, a degree of nervous derangement or depression equivalent to the previous excitement; and its habitual immoderate employment is well known very greatly to injure the tone of the stomach, and frequently to give rise to troublesome dyspeptic affections. This result is peculiarly apt to take place in individuals of naturally susceptible nervous systems, and in those of sedentary habits.

As a Disinfecting Agent.—Coffee is one of the most powerful means, not only of rendering animal and vegetable effluvia innoxious, but of actually destroying them. It is stated, in the "London Medical Gazette," that a room, in which meat in an advanced degree of decomposition was kept for some time, was instantly deprived of all smell on an open coffee-roaster being carried through it, containing a pound of newly-roasted coffee. In another room, exposed to the effluvium occasioned by the clearing out of a dung-pit, so that sulphuretted hydrogen and ammonia in great quantity could be chemically detected, the stench was completely removed within half a minute, on the employment of three ounces of fresh-roasted coffee; while the other parts of the house were permanently cleared of the same smell by being traversed with the coffee-roaster, although the cleansing of the dung-pit lasted for several hours longer. Even the smell of musk and castor, which can not be overpowered by any other substance, is completely dispelled by the fumes of coffee; and the same remark applies to the odor of asafœtida. It has been remarked, however, that animal effluvia are, in general, more readily affected by it than vegetable.

That here an actual neutralization, and not a mere envelopment of matter takes place, is shown from this—that the first fumes of the coffee are imperceptible, and continue so until a point of saturation, so to speak, is reached, whereupon the obnoxious smell disappears, and that of the coffee predominates. The reverse happens with other aromatic vapors, and even with acetic acid and chlorine. Here both coexist until the one completely preponderates. The simplest form in which to use it against contagious matter is in powder. The well-dried berry is to be pounded in a mortar, and to be strewed over a moderately-heated iron plate, until the powder assumes a dark-brown tint. Caffeic acid, and the empyreumatic coffee-oil, act more readily in very minute quantity.

TONICS.

OX-GALL.

(Fel Bovinum.)

Description.—This substance is the fluid contents of the gall-bladder of the ox, inspissated by heat. Anciently it was much employed in medicine, but fell completely into disuse until within the last few years, when it has been again brought under the notice of the profession, as an excellent tonic in various forms of dyspepsia.

Preparation.—The gall may be refined in the following manner: Take of fresh ox-gall, one quart; alum, one ounce; chloride of soda, one ounce. Boil one pint of gall, and skim; add the alum, and keep it on the fire for some time; boil the other part of the gall as before, and add the salt in the same way as the alum: keep both these solutions bottled separately for three months; then decant off the clear liquid; mix them in equal proportions; a thick, yellow coagulum is immediately formed, leaving the refined gall clear and colorless.

Properties.—The ox-gall, as analyzed by Berzelius, is found to contain—1. Bilin. 2. Cholepyrrhin. 3. Mucus. 4. Extractive matters. 5. A peculiar fatty matter (CHOLESTERIN). 6. Oleate, magarate, and sterate of soda. 7. Chloride of sodium, sulphate, phosphate, and lactate of soda, and phosphate of lime. The composition, as well as its common effects, proves bile to be a powerful chemical agent, alkaline in principle, and well calculated for the digestion of oleaginous substances.

Ox-gall produces effects on the human system very analogous to those of human bile: it promotes digestion, proves tonic, and is prominently laxative. Bile appears to be the chief agent that maintains the peristaltic motion. It is considered the most natural cathartic that can be used, and the repugnance with which it is taken is the chief if not the only objection to its employment. When the normal peristaltic motion is feeble, and the bowels incline to costiveness, no article is better adapted than this; and when duodenal digestion is imperfect, from a want of the natural biliary secretion, the ox-gall will serve as a substitute.

Beef's gall is also an excellent remedy in flatulent and even lead colic. It has often given relief, when many other more "fashionable" remedies had failed. As a remedy in intermittents, it has been much esteemed by some country practitioners, and perhaps there is no better common cathartic for dyspeptic habits.

Employment.—The dose is a few grains of the dried gall, or from ten to fifteen drops of the fluid bile. The most convenient form of using it is in pills. These may be coated with sugar, flour, or any other substance desired, and thus the disagreeable taste of the gall is obviated.

The editor of the "Medical Reformer," of 1845, makes the following remarks on the use of this remedy: "We administer it in those cases of dyspepsia accompanied with flatulency, sour eructations, and obstinate constipation of the bowels; and we do not hesitate to say that it has been attended with happier results than all other remedies that we have ever exhibited in such cases.

"For the benefit of those who wish to make trial of it, we subjoin our mode of preparing it. We empty the contents of three large galls into a quart bowl, which we immerse in a vessel of boiling water, and keep the water boiling gently for the space of six or eight hours, or until the gall shall have acquired the consistence of thick molasses. We then remove it from the fire and let it stand till it becomes cool, when we mix it with a powder composed of five parts of finely-pulverized golden seal and one part of capsicum, and mould into a pill-mass. We then divide it into five-grain pills, and administer from two to four, according to the nature of the case, three times in the twenty-four hours. Under this treatment an immediate change generally takes place: the acidity is rectified, the distress at the stomach removed, the bowels become regular, and the stools natural. After using the pills in this way for a few days, one dose may be dispensed with; and after administering two doses a day, if the bowels continue regular, give them but once. Usually we have discontinued them, at the end of about four weeks, for two or three days at a time, and if the bowels appeared disposed to become constipated again, we have ordered them to be resumed once a day or once in two days, according to the symptoms, until a complete cure was effected."

Dr. Prince, of Lebtz, in the island of Jamaica, informs me that he uses beef's gall in most diseases of the stomach and liver with signal benefit. He combines it with mandrake, forms it into pills, and gives three or four once or twice a day. He says it acts upon the human system as oil does upon a watch, or other machinery, making it "run easy."

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IRON FILINGS.

(Ferri Filum et Limatura.)

Properties and Uses.—Iron filings were at one time much used in medicine, but at the present day they are seldom employed. The dose of them was from ten grains to half a dram, administered in the form of electuary or bolus made with molasses or honey.

More recently the employment of metallic iron, reduced to a state of minute division by means of hydrogen (*fer réduit* of the French), has been employed in continental Europe, its use having been introduced by MM. Quevenne and Miquelard. To obtain it, a certain quantity of black oxyde of iron (*Æthiops martis*) is introduced into a tube of porcelain which is heated to redness, and a current of hydrogen gas is then passed over it until it is reduced. When well prepared it is in the form of a fine, light powder, of a bright grayish-slate color, in very minute division, and free from any trace of sulphur. The advantages which this preparation is said to possess are, first, that it is readily acted on by the weak acids (the lactic and muriatic) which are ordinarily present in the gastric juice during digestion; and secondly, that it is free from the inky taste which the preparations of iron possess in a degree proportioned to their solubility. The dose of it is from one to ten grains, and may be given in the form of pill or of bolus.

The general effects of the ferruginous preparations, when their use has been continued for some time, are tonic and astringent; but, when they have been given in too large doses, or their use persisted in for too long a period, they produce a state of over-excitement, characterized by a feeling of determination of blood to the head, general fullness, and by other uneasy sensations. The morbid state of the system in which the preparations of iron are generally found most useful is that which has been denominated *anæmia*, or deficiency of blood. Their employment is contra-indicated where there is any tendency to inflammation or active hemorrhage in the system, where there is irritability of the digestive organs, in persons of a full habit of body, and in those prone to a determination of blood to the head.

AMMONIA-TARTRATE OF IRON.

(Ferri Ammonio-Tartras.)

Description.—This preparation is met with in the form of brilliant scales semi-transparent, and of a beautiful reddish-brown color. It is odorless, and has a sweetish, slightly chalybeate taste. It is soluble in about twice its weight of water at 60°, and in a much less quantity of boiling water; it is insoluble in absolute alcohol and in ether.

Properties.—This excellent preparation of iron is void of all astringency. It is peculiarly suited as a tonic for those derangements of the uterine organs, in which the ferruginous salts are indicated. Its not disagreeable taste, its solubility in water, and the permanency of its composition, give it an advantage over most of the other preparations of iron.

Employment.—The doses are from five to eight grains in powder, pill, or solution, or as a bolus in honey.

Incompatibles.—The mineral acids, and all astringent vegetable preparations.

SACCHARINE CARBONATE OF IRON.

(Ferri Carbonas Saccharatum.)

Description.—This is a grayish or bluish-green powder, inodorous, with a sweetish, strongly-chalybeate taste. The carbonate of iron of the pharmacopœias *(ferri subcarbonas)* contains but little carbonic acid; the precipitate during the washing and drying absorbs oxygen, loses nearly the whole if not all its carbonic acid, and becomes almost entirely converted into sesqui-oxyde of iron. Saccharine matter, when used in the preparations of carbonate of iron, prevents in great measure this change. It was first recommended by Dr. Becker, a German physician, as a means of protection against the absorption of oxygen, and that idea was carried out by Klauer, a German chemist, who first made the saccharine carbonate of iron. M. Valett, of Paris, has introduced a new method for preparing this article, in which the protection from oxydating is much more complete; the materials and product of his process are kept continually in contact with saccharine matter, by using weak sirups for both dissolving the salts and washing the precipitate. His formula for preparing the protocarbonate is the following: Take of pure sulphate of iron, four ounces; carbonate of soda, crystallized, five ounces; honey, two and a half ounces; sirup and boiling water, of each a sufficient quantity. Dissolve the sulphate of iron and the carbonate of soda each in a pint of the water, and to each solution add a fluid ounce of sirup, and mix the two solutions in bottles just large enough to hold them, close them tightly with stoppers, and set them aside for the precipitate to subside; pour off the superabundant liquor, and wash the precipitate with warm water sweetened until the washings no longer have a saline taste; then place it upon a flannel cloth, and forcibly express as much of the water as possible, then immediately mix it with the honey, and evaporate it as rapidly and carefully as possible to pilular consistence. It should be of a uniform dark color, and a strong ferruginous taste. It is readily soluble in acids, and contains half its weight of carbonate of protoxyde of iron.

Properties.—This preparation is superior to any made from that metal, from its unchangeableness and easy solubility in acids. It is particularly useful in chlorosis and amenorrhœa, and other female complaints, and appears to act favorably by increasing the coloring matter of the blood, causing the capillary system to become more fully injected, and the lips to assume a redder color.

Employment.—It may be given in divided doses to the extent of from ten to thirty grains in the course of the day. Fifteen grains of this article have been observed to produce headache and sense of fullness in the head.

Incompatibles.—Acids and acidulous salts, and all astringent vegetable preparations.

PRUSSIAN BLUE.

(Ferri Cyanuretum.)

Properties and Uses.—This substance has been employed in the treatment of intermittent and remittent fevers, and in dysentery, for which it is stated to have proved a very effectual remedy. It has also been employed in Germany with success in some cases of old-standing epilepsy. But, according to more recent observations, it appears to possess very little therapeutical powers. The dose in which it has been administered is from three to six grains four times a day.

CHARCOALS.

PURE CHARCOAL.

(Carbon.)

Carbon is an elementary substance extensively diffused in nature, and forms the most abundant constituent of animal and vegetable matter. In a state of perfect purity, crystallized, it constitutes the diamond, and in states more or less pure it forms the black lead, the anthracite and bituminous coals, and the animal and vegetable charcoals.

The *diamond*, or crystallized carbon, is found principally in India and Brazil. It is perfectly transparent, and the hardest and most brilliant substance in nature. Its specific gravity is about 3·5. It is perfectly fixed and unalterable in the fire, provided air be completely excluded; but it is combustible in air or oxygen, the product being the same as when charcoal is burned, namely, carbonic acid.

Next to diamond, plumbago and anthracite are the purest natural forms of carbon. *Plumbago* is the substance of which black-lead crucibles and pencils are made. It is found in greatest purity, perhaps, in the mine of Borowdale, in England; but it also occurs very pure in this country, especially near Bustleton, in Pennsylvania. It was formerly supposed to be a carburet of iron; but in very pure specimens it is nearly free from iron, which must therefore be deemed an accidental impurity. *Anthracite* occurs in different parts of the world, but particularly in the United States. Immense beds of it exist in Pennsylvania. *Bituminous coal* is a form of the carbonaceous principle, in which the carbon is associated with volatile matter of a bituminous nature. When this is driven off by the process of charring, as in the manufacture of coal-gas, a kind of mineral charcoal, called *coke*, is obtained, very useful in the arts as a fuel.

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COMMON CHARCOAL.

(Carbo Ligni.)

Preparation.—Common charcoal is not considered sufficiently pure for medical exhibition, as all the volatile portions of the wood are not completely expelled. Lowitz directs its purification to be conducted in the following manner: Fill a crucible with ordinary charcoal reduced to fine powder, and lute on a perforated cover. Then expose the whole to a strong red heat, and continue the ignition as long as a blue flame issues from the aperture in the cover. When this ceases, allow the charcoal to cool, and transfer it quickly to bottles, which must be well stopped.

Properties.—This is a black, shining, porous substance, without taste or smell, and is insoluble in water. When exposed to the air after ignition, it increases rapidily in weight, absorbing from 12 to 14 per cent. of moisture. As ordinarily prepared, it contains the incombustible part of the wood, amounting to one or two per cent., which is left in the form of ashes when the charcoal is burnt. These may be removed by digesting the charcoal in diluted muriatic acid, and afterward washing it thoroughly on a filter with boiling water.

Powdered charcoal is antiseptic and absorbent, and is employed with advantage in certain forms of dyspepsia, attended with fetid breath and putrid eructations; in dysentery it has the effect of correcting the fetor of the stools. As a remedy in obstinate constipation, it proves successful, as also in the nausea and confined state of the bowels which usually attend pregnancy. In consequence of the absorbent and antiseptic properties of charcoal, it is invaluable in domestic economy. Meat imbedded in it in close vessels is kept perfectly sweet for many months; and water intended for long voyages is equally preserved by the addition of its powder.

Employment.—In the cholera and in dysentery it is given in doses of twenty grains, frequently repeated; and the fresh powder is added to linseed cataplasms as a useful application to gangrenous and fetid sores. It is also used as a dentifrice, for which it is very generally employed, as by its mechanical action it removes incrustations from the teeth, and by its antiseptic powers it corrects the fetor of the breath.

ANIMAL CHARCOAL.

(*Carbo Animalis.*)

Description.—Ivory-black, bone-black, or animal charcoal, is usually pr pared by calcining the bones of animals in close vessels. Thus obtained, contains phosphate and carbonate of lime, which would unfit it for the pu poses to which it is applied in pharmacy, namely, that of acting as a deco orizing agent in the preparation of the vegetable alkaloids. Processes a consequently given in the pharmacopœias for purifying the commercial articl It is a black powder, possessing a slightly alkaline and bitterish taste, a having a general resemblance to powdered vegetable charcoal. It is, how ever, more dense and less combustible than this charcoal, from which, mor over, it may be distinguished by burning a small portion of it on a red-h iron, when it will leave a residuum imperfectly acted on by sulphuric acid whereas, the ashes from vegetable charcoal will readily dissolve in this aci forming a bitterish solution.

Properties.—Animal charcoal is used in pharmacy for decolorizing veg tables principles, such as quinia, morphia, &c., and in the arts, principall for clarifying sirups in sugar-refining, and for depriving spirits distilled fro grain of the peculiar volatile oil, which imparts to them an unpleasant tas as first distilled. The manner in which it is used is to mix it with the sub stance to be decolorized, and to allow the mixture to stand for some tim The charcoal unites chemically with the coloring matter, and the solution b filtration is obtained white and transparent. For most pharmaceutical ope ations, animal charcoal should be purified by muriatic acid from phospha and carbonate of lime.

After animal charcoal has been employed as a decolorizing agent, it los its powers as such; which, however, may be again restored to it by dryin and heating to redness. When properly prepared, if it be incinerated wi its own volume of red oxyde of mercury, it is dissipated, leaving only scanty ash.

Dr. B. H. Rand, of Philadelphia, states as the result of many careful an able experiments, that "we are perhaps justified in drawing, from the prese state of our knowledge on this subject, the following conclusions:—

"1. That animal charcoal has the power of withdrawing, when used at proper temperature and in sufficient quantity, most known vegetable and an mal poisonous principles, and certain mineral poisons from their solutions.

"2. That, given at the same time with, or shortly after these poisons hav been swallowed, it prevents their deleterious action.

"3. That, given in cases of poisoning, it can exert no injurious influenc but, on the other hand, promotes vomiting, entangles the poison, and pro tects the coats of the stomach against it.

"4. That, although it can not be substituted for the usual antidotes i poisoning by mineral substances, yet it may be usefully employed in con junction with them, or in their absence."

MEDICAL ELECTRICITY.

(*Galvanism.*)

As the Creator has formed all substances upon this our habitable earth out of such few materials that, even with our present imperfect chemical skill, we have been able to reduce them to fifty-two elements. and as it is likely, as our progress in chemical analysis advances, we shall find this number much reduced; so, in this same point of view, it is interesting to notice that electricity of the atmosphere, that invisible and extraordinary agent which is at once a terror, and the ornament of the sky, as developed in auroræ or in lightning—which is, with much probability, believed to be the safety of the mariner on the boundless ocean[*]—which is essential to the purity of our atmosphere, and formed the crystalline beauty and treasure of the mineral kingdom,[†] thus bending chemical effects to its power—is the result of the action of one body on water, and that body the same which maintains the planets in their orbits—the sun—the centre of the planetary system. When so many effects are thus seen to result from the action of one body (the sun), and when we know that its light and heat are necessary to the existence of every organized being in the planetary system, what an idea becomes impressed upon us of the wisdom of the great Disposer of all things! Well may we exclaim in the language of the poet—

> "His wisdom guides the rushing wind,
> And tips the bolt with flame;
> His goodness breathes in every breeze,
> And warms in every beam!"

Neither is this universality of action peculiar to the great luminary we have been speaking of, but is common to all the great agents in nature (and even those of a secondary character). Thus we see the multiplied offices of the atmosphere, the moon, &c., &c.; indeed, this is obvious..

It is well known that electricity is one of the most subtle and powerful agents in nature; and it would appear that it is not only the great principle that supports the whole planetary world, but that it keeps them in order or in their several spheres by the specific laws which govern it; that it sustains, perpetuates, "and is the origin of life," both animal and vegetable; that the whole creation, including every substance, is filled with it, and that it is ordinarily diffused in all animate, inanimate, or inorganic bodies. When this is the case, there is uniformity in all the laws of nature; but when there is an unequal distribution of this fluid, or the balance is deranged, or when one body contains more of it than another, then an instantaneous and powerful action takes place in the laws of nature, causing great commotion or convulsions. The dreadful thunder then is heard, and the vivid lightnings flash.

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[*] Thermo-electric currents at the equator being believed to cause polar magnetism.

[†] See the results of Becquerel, Cross, Fox, and others, in producing mineral crystals (by means of electric currents of low tension), which chemistry had in vain previously attempted.

These phenomena are produced in consequence of antagonistic objects bei unequally charged with electricity. The lower clouds that pass over t earth are surcharged with it: it is thrown or passes to the earth to resto the loss of balance, and when it passes it becomes visible to the eye in t shape of lightning. The experiment of Dr. Franklin, who it is said dre lightning from the clouds, is illustrated in the same manner. An account given of a ship at sea, in which the lightning passed from the clouds to t water, and back again from the water to the clouds, by the conducting m dium of the masts and ropes of the vessel: when the clouds contained greater quantity of electricity than the water, it descended; and when t water contained more than the clouds, it ascended, to equalize the fluid, restore the loss of balance. This is also shown by the experiments of t electrician, who passes the fluid from jar to jar at pleasure.

Is not this electricity, then, the *primum mobile* of the human system? I it not the source of life, and of every action and movement of the body It appears that the brain is nothing more or less than a galvanic batter having positive and negative poles. It produces the action of the hear propelling the blood to every part of the body, and then, as Dr. Hammon has further very scientifically suggested to me, it sends the blood bac again to the heart by an inherent law peculiar to itself, by which it returns i a circular or concentric sphere; and that every motion, nervous and muscu lar, is derived from this all-powerful and wonderful agent.

Even before the present century, when that form of electricity was alon known which is developed by the friction of glass and silk, the rapidity wit which volition was transmitted along the nerve to the muscles had induce many persons to suppose that this was the agent employed by nature t traverse the high road of the nerves as the messengers of its will, and it wa then remarked by these observers that these latter bodies were by far bette conductors of electricity than any other portion of the human frame. I was subsequently observed that a strong spark or passage of electricity alon any nerve called its dependent muscles into action. These facts, combine with others, led many, even at that early period, to believe that the nervou influence and electricity were identical; still it was difficult to conceive how electricity of such high tension could exist in the human body, the fluids o which endow the entire with power of electrical conduction. But when the genius of Volta had at the commencement of the present century unfolded to the world a new form of electricity, of tension so low that, with the exception of the nerves, which are excellent conductors, the animal solids would transmit it with difficulty; and when it was further seen that this new form of electricity, thus developed in a state of tension so low as to be quite consistent with the structure of the human body, exerted on the muscles, when transmitted to them by the nerves, a stronger action than frictional electricity had ever done; and further still, that animal matter alone, independent of metals, could constitute an arrangement capable of developing this electricity, the electro-nervous theory received a great accession of probability. And when, at a period a little later, Sir Humphrey Davy, Wollaston, Cruikshank, and others, had shown that this electricity of low tension was capable of decomposing saline fluids, and of eliminating their acid constituent at one extremity of the arrangement and their alkaline at the other, it was soon seen that the secretion of our most important organs, as of the skin, stomach, liver, intestinal canal, &c., might be the result of the electrical condition of these organs impressed upon them at birth by divine power; and hence, after the discovery of electro-magnetism by Oersted, the galvanometer was proposed as a means of ascertaining whether or not these organs, whose secretions are characterized by opposite chemical qualities, were not also in opposite states; and the result of this beautiful test was strongly confirmatory of this theory, for these organs all indicated opposite electric states whose secretions were of opposite chemical natures. Thus the skin, whose secretion is acid, indicated positive electricity when examined by the galvanometer; the intestinal canal indicated negative electricity, and its secretion has been proved to be alkaline, except in the stomach, where it is acid, and there it indicates positive electricity. The stomach was found to be in one electric state, the liver in the other, the chemical nature of the secretions of each organ always according with that character which should result from the peculiar electric polarity in which the organ was found by the galvanometer to be.

We are led by the experiment of Dr. Philip, of England (on the identity of the nervous influence and electricity), and the amply-proved existence of hydro-electric currents circulating between the organs of secretion (as shown by Le Donne, Marianini, Orioli, and Becquerel), to see that the processes of secretion and digestion are hydro-electric phenomena, and thence to appreciate the importance of judiciously administered electricity of low tension in restoring a healthful condition to the secreting and digestive organs, and to witness the greatly increasing probability that in all cases of secretion, digestion, sensation, and motion, electricity is the great natural agent and is identical with the nervous influence.

We have reason to believe that the vital electric current, which M. Prévost has shown to accompany motion in the living animal, is really the cause of all human motion, and are led to look with confidence to the use of artificial electricity as a means of restoring the powers of voluntary motion to such parts of the human body as have become partially and recently deprived of it, in consequence of paralysis of the motor nerves, arising from either slight structural alteration, or deficient power of setting into motion the natural electric fluid at their origin.

But we now come to apply this principle to disease. And first, may not health depend upon an equal distribution of this fluid? When it is lost or suppressed, or is in any respect injured, the stimulus imparted to the secretions is measurably withdrawn, and they become incapable of performing their offices, by which excrementitious materials are retained in the system, and the blood becomes determined to different organs, causing congestion and inflammation. And does not this theory accord with our pathological views? For, under these circumstances, we can restore these suppressed secretions by the application of heat or vitality, which is synonymous with electricity. Then, if the theory be true that acute diseases arise from the excess of electric fluid, and chronic diseases from a deficiency, are we not instinctively led to apply it for the removal of disease? And although it has been so highly extolled and so frequently recommended, has not the partial benefit only been derived from the want of a judicious and skilful application of it? We have been inclined to believe this; and great light has been cast upon the subject by my friend Dr. Miller, of this city. By a judicious and extended course of experiments, he informs me that he has been very successful in a great variety of diseases. He has discovered a method of applying magnetism different from anything I have seen or read of. By using the common small magnetic apparatus, he isolates himself, and passes the fluid from himself to the patient, and also by the direct application of the machine to the naked surface of the body. He forms his diagnoses of disease by the same means, and its application produces the most peculiar and increasingly painful effect over the region of organs which are diseased.

This subject deserves further investigation, and every student should have a small, cheap machine, and use it as an auxiliary with other remedies.

Water is a fine conductor of electricity, and it may be owing to this that when the body is bathed with it in fevers, the superabundance of heat or electricity is rapidly thrown from the body through this medium, whereby the bodily temperature is equalized. This fluid penetrates every organ and tissue of the body, and by its subtle and permeable influence is well calculated to remove obstructions. An artist in this city is now constructing an apparatus by which he intends to force medicines into the system!

Mesmerism, which is now so often indicated, exerts an influence on the system, and its application has and may control disease. We have some well-authenticated cases wherein this principle has been successfully applied for the cure of disease, and it is a subject which merits further investigation.

The following remarks on the subject of electro-magnetism are contained in a letter from Dr. Edward S. Clarke, of Dublin, to Dr. Graves:—

"The results of electro-magnetism in the Meath-hospital cases include—amaurosis; ptosis; complete paralysis of right lower extremity; partial paralysis of both lower extremities; complete paralysis of right arm; lumbar rheumatism; sciatica; neuralgia, femoral and brachial; œdema; catamenial suppression and irregularity; spinal irritability. In fine, even in the short time I have had the honor to act under the guidance of the physicians of Dublin (only three months), I have verified nearly all the efficacy which has hitherto been attributed to this science; and great as I have shown its importance as a medical agent to be even in the narrow limits as yet assigned to it by the profession, I feel assured that it will soon be found applicable to a far more extensive range of diseases, and that higher triumphs await its progress, when it shall have been employed by the profession to stimulate the functional performance of more important organs than those to which it has as yet been applied. This opinion I found on a deliberate consideration of the theory which has led to its adoption as a medical agent, namely, its identity with the nervous influence.

"With reference to the facility with which electricity removes various forms of disease, I believe I may remark that I have found it to act more quickly in neuralgia than in any other, as it occasionally cures some varieties of this disease in two or three applications, but in others it often requires a feeble electrical current for many successive days.

"Next in order of facility come rheumatism and sciatic cases, then cases of deafness. After these come some varieties of catamenial suppression. It also acts readily on some curable forms of amaurosis, then in partial paralysis, and with greater difficulty in hemiphlegia than in almost any other form, as this disease requires many weeks of daily and perhaps constant application by means of the sustaining battery. And here I may mention, as an instance of the value of electric treatment, that in this disease I have always found those muscles soonest restored to voluntary power to which electricity had been the more constantly applied."

WATER.

(Aqua.)

Description.—Water is one of the most abundant substances in nature, and plays an important part in the economy of the universe. It is more or less concerned in almost all the changes which take place in inorganic matter, and is essential to the growth and existence of living beings, whether animal or vegetable. In a pure state, it is a transparent liquid, without color, taste, or smell. Its specific gravity is assumed to be unity, and forms the term of comparison for that of all solids and liquids. A cubic inch of it, at 60°, weighs very nearly 252·5 grains. It is compressible to a small extent. Reduced in temperature to 32°, it becomes a solid or ice; and raised to 212°, an elastic fluid called steam. In the state of steam its bulk is increased nearly 1700 fold, and its specific gravity so far diminished as not to be much more than half that of atmospheric air. At the temperature of 39° its density is at the maximum; and consequently, setting out from that point, it is increased in bulk by being either heated or cooled. It has the power of dissolving more or less of all the gases, including common air, the constituents of which are always present in natural water. It is uniformly present in the atmosphere, in the form of an invisible vapor, even in the driest weather, and exerts, by its variable amount at different times, an important influence on the animal economy.

Water unites with other bodies, in either the liquid or solid form; in the former case producing solutions, in the latter hydrates. It is the most universal solvent known, and on this property mainly depends its great influence in the operations of nature.

Water consists of one equivalent of hydrogen 1, and one of oxygen $8=9$; or in volumes, of one volume of hydrogen and half a volume of oxygen, condensed into one volume of aqueous vapor or steam.

Properties and Uses.—Water is a substance of the first necessity to animals and vegetables. In animals there exists an instinctive desire for it, to repair the waste of the fluids which is constantly taking place in the animal economy. It constitutes the basis of nearly all the animal secretions, and nine tenths of the blood, and is the only diluent proper in a state of health.

> "Nothing like simple element dilutes
> The food, or gives the chyle so soon to flow."

As a remedy, water is highly important. When taken into the stomach, it acts by its temperature, by its bulk, and by being absorbed. When of the temperatare of about 60°, it gives no positive sensation of either heat or cold; between 60° and 45°, it creates a cool sensation; and below 45°, a decidedly cold one. Between 60° and 100°, it relaxes the fibres of the stomach, and is apt to produce nausea, particularly if the effect of bulk be added to that of temperature. By its bulk and solvent powers, it often allays irritation by diluting the acrid contents of the stomach and bowels, and favoring their final expulsion; and by its absorption, it promotes the secretion of urine and cutanenous transpiration. Indeed, its influence is so great in the latter way, that it may be safely affirmed that sudorifics and diuretics will not produce their proper effect, unless assisted by a copious dilution.

Water, externally applied as a bath, is also an important remedy. It may act by its own specific effect as a liquid, or as a means of modifying the heat of the body. It acts in the latter way differently according to the particular temperature at which it may be applied. When this is above 97°, it constitutes either the vapor or hot bath; when between 97° and 85°, the warm bath; between 85° and 65°, the tepid bath; and between 65° and 32°, the cold bath. Of its use and properties, topically applied in baths, &c., I have treated very fully in other portions of this work.

Employment.—Cold water is frequently applied as a sedative in local inflammations, and as a means of restraining hemorrhage. Its use, however, is inadmissible in diseases of the chest. Water is the most extensive pharmaceutical agent that we possess. It is employed in a vast number of preparations, as a means of promoting chemical action by its solvent power. It is more or less present in all the liquid forms of medicines, and is the sole menstruum in the medicated waters, decoctions, and infusions. I consider it as one of the most valuable articles in the materia medica; indeed, it has sometimes appeared to me that I could fulfil almost every indication by its use—vomit, purge, sweat, and strengthen, and thus cure all fevers, &c.

A great portion of the system consists of this fluid, and it of course plays an important part in the prevention and cure of disease; for when it is withheld for a length of time, the most distressing and sometimes fatal effects ensue. The formation and healthy state of the blood depend upon this element, as well as the proper action of all the secretions and excretions of the body; all the excrementitious and poisonous materials are held in solution and expelled from the system through the same medium; and in various diseases, nature promptly and unceasingly points out the importance of water by the intuitive demands of the system for it. In febrile and other affections, the free internal and external use of this remedy, by its refrigerating and bracing effects, entitle it to be regarded as a most invaluable therapeutical agent.

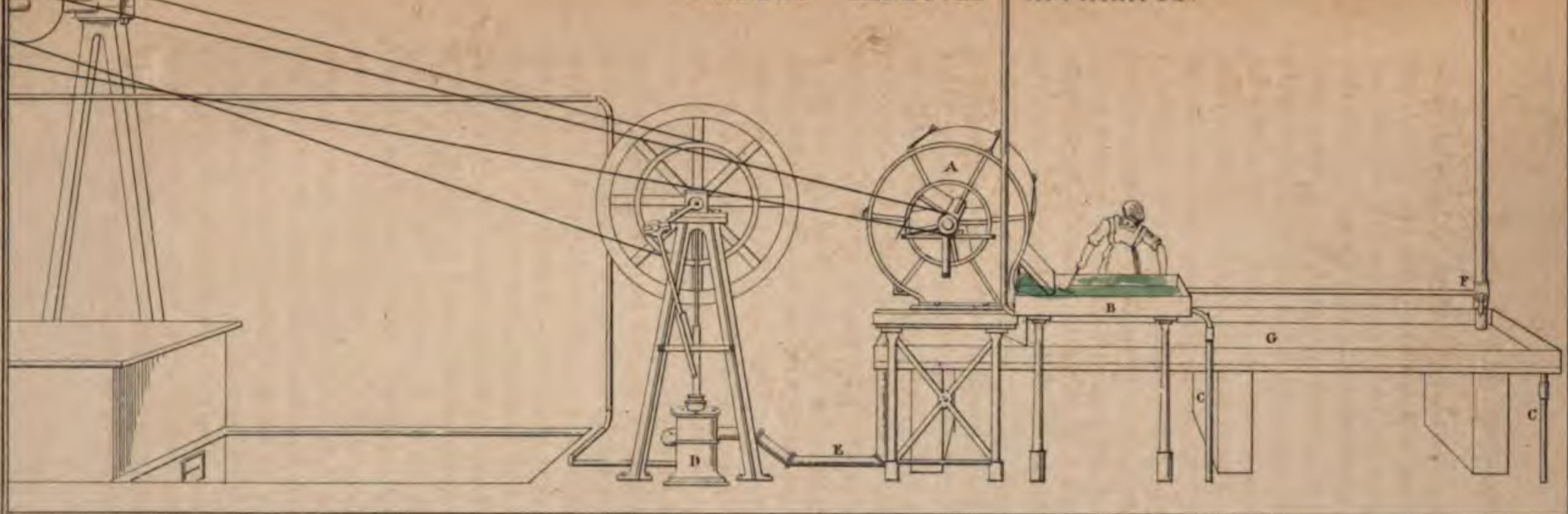
Dr. Lambe, of London, wrote a treatise to prove the great value of pure water and vegetable diet to prevent disease and prolong life, and many ancient and modern physicians and others have borne testimony of the same character. Since the introduction of the Croton water into this city, the general health of the people has much improved, and diseases of the urinary organs have diminished in a surprising ratio.

"The Great Harmonia," a work by Andrew Jackson Davis, the clairvoyant, author of "The Principles of Nature, her Divine Revelations, and a Voice to Mankind," contains the following treatise upon water:—

"Water is a medium for the influx of electricity. Every organized substance contains water; it is essential to life and health; and, by its prompt and chemical action, imparts vital electricity, and extracts various kinds of matter from the organism of man. It is a constituent of every particle of air which is inhaled, and of every atom of food which is consumed. It acts chemically in and upon the body, and the health and equilibrium of the system can not be maintained without the presence and co-operation of this universal element. Water is manufactured in the interior portions of the earth; it is a chemical preparation of hydrogen and oxygen, which are electricity in a peculiar state of combination. When used internally, water readily enters into combination with the blood and vital electricity, which circulate through the system from centre to circumference. There is always an excrementitious portion of water which is thrown, with the various excretions, from the system; that is to say, repelled by the superior forces of the internal combinations of matter. When used externally, water is a powerful anodyne, alterative, tonic, diaphoretic, and restorative. That portion of water which is negative to the internal acids and forces, is rapidly drawn into the organism, and the internal negative fluids and atoms are thrown or repelled to the surface; thus a mutual exchange or reciprocation of forces and constituents is a legitimate consequence of the chemical action of water. In case the patient has a fever, which is owing to a superabundance of the acid and magnetic principles of the body, the first thing which *intuition* bids the tongue to pronounce, and the individual to employ, is cold water. Nothing but ignorance will transgress this prompting—nothing but error will disregard this powerful and sacred admonition of conscience, which is the voice of th indwelling divinity. Nature, intuition, and circumstances, are ever the be physicians. But, for illustration, let the reader suppose that Nature an intuition prescribed for her own disturbances, and that the patient is suffering with a violent fever; that is, the system is thrown into a positive state owing to some spiritual disturbance, which has developed a superabundanc of acids and vital magnetism: intuition demands that cold water should b applied internally and externally. The demand is supplied by making th application; and now let us observe the chemical action which ensues. I acute fevers, the acids of the system preponderate and come to the surface and the vital magnetism rushes from the viscera, and intensely permeate and accelerates the movement of all the atoms belonging to the serous surfaces and cuticle. While the system is in this severe state of general inflammation, cold water is properly applied to the entire surface of the body. Chemical action instantly commences. The water repels the superabundant acids and magnetism from the external membranes, and this consequently diminishes the atomic motions, and reduces the physical temperature. This is accomplished by the electricity of the water coming in contact with the magnetism of the body; the chemical phenomena of which are a rapid decomposition of the water—one portion penetrating the system, another ascending into vapor or atmosphere. And that portion of the organic or muscular matter which was decomposed by the intensity of the inflammatory or magnetic action, is repelled from the system in the form of excretions and insensible perspiration. The avenues through which the electricity of the water enters the organism, are vessels for the reflux or outflowing of the exhausted and useless particles of matter.

"Particles pass and repass each other to and fro through the internal departments of the human body, especially when the surface is enveloped in that watery element which abounds in nature. In emaciation and starvation, the membranes and tissues decompose and pass off through the bowels, kidneys, lungs, and skin. Carbon and hydrogen separate, and atmospheric oxygen, which is also electricity, produces an oxydation of the lungs, membranes, and brain. But the process of starvation and the progress of disease may be greatly protracted and arrested by the mere inhaling of water. If a person of good constitution was condemned to die by starvation, and was placed in a close room with a hogshead of water uncovered, he could, without drinking it, by allowing his mind to act moderately, live from six weeks to two months. In this case, water compensates the system for matter which is exhaled into the atmosphere; or, as fast as the body imparts substances in the form of nitrogen, hydrogen, and carbonic acid, to the air, the oxygen of the water enters the lungs, and thus, as long as it lasts, contributes to strengthen that principle of vitality which joins the mind to the body. Water, in various degrees of temperature, is a powerful agent for the development of happiness in the individual, and for the restoration of harmony in those that are sick."

HOOPERS IMPROVED APPARATUS.



SECTIONS.

Fig. 1.

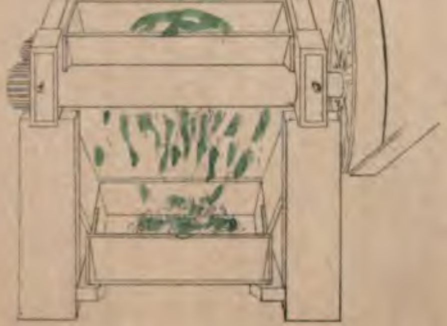


Fig. 5.

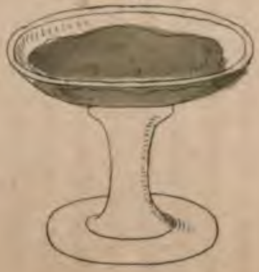


Fig. 3.

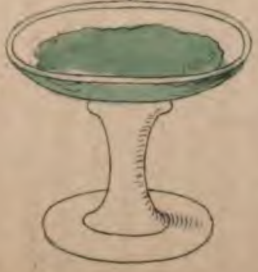


Fig. 4.

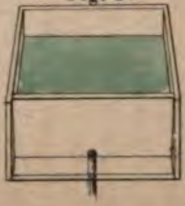


Fig. 2.

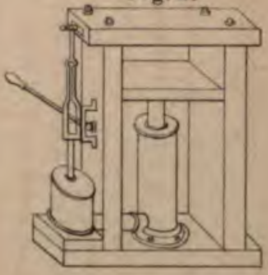


PLATE V

PART II.

PHARMACY AND DISPENSATORY.

INTRODUCTORY REMARKS.

Pharmacy may be defined as that branch of medical science which teaches the art of preparing and combining remedies for the treatment of diseases.

It is the object and province of *materia medica* to provide articles or ingredients for the prevention and cure of diseases, and to treat of their properties and virtues. But it is the province of *pharmacy* to show how these articles are prepared and compounded for administration. It is the design of *therapeutics* to indicate the *modus operandi*, or their effects upon the human system, and their application to the cure of diseases. At any rate, this is the order which I propose to pursue, although it may differ from that of some writers.

We wish every one to be deeply impressed with the truth of this sacred maxim in physic, that the virtue of a medicine consists wholly in the skill of its application; and that the best and most salutary remedy, if injudiciously administered, may prove injurious.

Some substances are administered in their natural state; others previously undergo various preparations.

Every article used in medicine should be collected in the proper season, and be as free as possible from impurities.

The articles of the materia medica, in their raw or natural state, are generally unfit for medicinal use, and their remedial powers are often increased by combining two or more of them together: hence the necessity of preparation and composition, by which we are enabled to form many powerful as well as elegant prescriptions.

The medicinal properties of vegetable substances frequently reside in peculiar proximate principles, which, from their relation to certain solvents, can be separated from each other; and thus, in many cases, the principle on which the medicinal activity of the substance depends can be obtained in a pure, and, if necessary, in a concentrated state. Resins, for example, are dissolved by alcohol, gums by water; extractive matter by either of these liquids, or by a mixture of both; and by this separation important advantages may be obtained: the medicine is more easily preserved, more conveniently administered, and is rendered more certain in its operation. On this ground are founded the various pharmaceutical preparations of *infusions*, *decoctions*, *tinctures*, *medicated wines*, *extracts*, &c.; forms under which medicinal substances are often employed in preference to their natural state.

Some preliminary operations of a mechanical nature are frequently had recourse to, in order to diminish the cohesion of bodies, or enlarge their surface—such as pulverization, trituration, levigation, granulation, &c.

Pulverization is the term employed when solid bodies are reduced to powder by beating or pounding, as in a mortar.

Trituration is the name by which to designate the same effect when produced by the act of rubbing.

Levigation denotes the operation of triturating a powder to a great degree of fineness, which is facilitated by the interposition of a fluid in which the solid is not soluble. As, by any of these operations, the powder must consist of particles of unequal size, the finer are separated from the coarser by sifting or washing.

Sifting is the act of passing the powder over a sieve, the interstices of which are so minute as to allow only the finer particles to fall through.

Washing is an operation performed on substances which are not soluble in water. The powder is diffused through a quantity of that fluid, and the mixture allowed to remain at rest. The coarser particles quickly subside, and the finer remain suspended. The fluid is then decanted off, the powder allowed to subside, and afterward dried.

THEORY AND ART OF MEDICINAL COMBINATION.

Under this head I propose to make some preliminary remarks, which the student and practitioner will perceive to be of great importance, and which they will do well ever to keep in view, in both prescribing and compounding. Those who have read Dr. Paris's "Pharmacologia" will find that I have embodied many of his ideas and observations, as I consider him one of the best authorities on the subject.

The arm of physic has derived much additional power and increased energy from the resources which are furnished by the mixture and combination of medicinal bodies. The physician can frequently fulfil most important indications by the administration of one simple remedy; but in many cases, by its scientific combination with other medicines, it will not only act with greater certainty and less inconvenience, but its sphere of influence may be thus more widely extended, and its powers so modified as to give rise to a remedy of new powers. Such a theory is amply justified by the state of combination in which certain medicinal principles are found in vegetable remedies, while the medicinal practice founded upon it is thus, as it were, sanctioned by Nature's own prescriptions. Enter her laboratory, and you will soon be satisfied that many of her most efficient remedies do not owe their valuable powers to any one specific ingredient, but to the combined or modified energies of various and sometimes opposite principles, for plants are but chemical compounds prepared in the laboratory of nature.

Dr. Fordyce first established the existence of the singular and important law that a combination of similar remedies will produce a more certain, speedy, and considerable effect, than an equivalent dose of any single one—a fact which does not appear to have been known to any ancient physician. The earliest mention of it is by Valisnieri, the favorite pupil of Malpighi, who filled the medical chair at Padua in 1711, nearly ninety years before Fordyce published his valuable memoir on the combination of medicines, but he does not attempt any generalization of the subject; he merely states, as the result of careful experiments, that twelve drams of cassia-pulp are about equivalent in purgative strength to four ounces of manna; "and yet," says he, "if we give eight drams of cassia-pulp, in combination with four drams of manna, we obtain double the effect! How," adds the professor, "can this possibly happen? Surely the very contrary ought to obtain, since four drams of cassia are much more than equivalent to an equal weight of manna; the strength of the former being to that of the latter as eight to three."

The truth of this law of medicinal combination must be continually felt by the practitioner in the ordinary routine of his practice, viz.:—

Narcotics will better fulfil the intention of allaying irritation and pain, when composed of several of such medicines in combination, than when they consist of any single one, even should the dose, in this latter case, be increased.

Anti-spasmodics acquire increased efficacy by the application of the same principle.

Bitter Tonics are also thus exalted. The beneficial effects, however, which arise from combinations of this kind will admit of a satisfactory explanation upon another principle: we may, for instance, consider them as medicines differing from each other in their composition, and producing by their union an assemblage of bitter, astringent, and aromatic principles, as is the case with the *Restorative Wine Bitters*, which certainly contains greater tonic powers than any one of its ingredients could possibly possess if employed uncombined with other articles.

Aromatic and Diffusible Stimulants.—There are perhaps no remedies which receive greater mutual benefit by intermixture than the individuals which compose this class; for they not only thus acquire increased efficacy, but at the same time they lose much of their acrimony. If, for instance, any one spice, as the capsicum, be taken into the stomach, it will excite a sense of heat and pain; in like manner will a quantity of black pepper: but if an equivalent quantity of these two stimulants be given in combination, no such sense of pain is produced, but, on the contrary, a pleasant warmth is experienced, and a genial glow felt over the whole body; and if a greater number of spices be joined together, the chance of pain and inflammation being produced is still further diminished. The truth of this law is also strikingly illustrated by that universal maxim in cookery, "Never to employ one spice, if more can be procured"—the object, in this case, being to make the stomach bear a large quantity of food without nausea.

Emetics are certainly more efficient when composed of lobelia and blood-root than when they simply consist of either one of these substances in equivalent doses.

Cathartics not only acquire a very great increase of power by combination with each other, but they are at the same time rendered less irritating in their operation. The *Anti-Bilious Physic* affords an excellent example of a compound purgative being much more active and manageable, and less liable to irritate, than any one of its components separately taken. Additional examples of this fact are furnished by different compounds. In many cases, however, the fact of purgatives thus accelerating and correcting each other's operation may be explained by considering them as substances endowed with different powers; for while one ingredient modifies the action of another, the compound becomes at once the more efficient.

Diuretics.—It may be observed of this class that whenever a medicine is liable to produce effects different from those we desire, its combination with similar remedies is particularly eligible, by which the action of the basis may be directed and fixed. Thus the individuals which compose the class of diuretics are uncertain in their operation, and disposed when exhibited singly to produce contrary effects: it is, therefore, in such cases, highly judicious to unite several of them in one formula, by which we increase their powers, and are more likely to insure their operation.

Diaphoretics.—Here the maxim, "*Vis unita fortior*," applies with equal truth.

Expectorants.—More is frequently to be gained by the co-operation of these remedies than can be obtained by the exhibition of them separately, as is exemplified in our *Expectorant Tincture.*

The operation of the law which has thus formed this object of inquiry, will be found, like every other, to have a natural and well-defined limit: it is easy to perceive that, by multiplying the number of ingredients too far, we shall either so increase the quantity and bulk of the medicine as to render it nauseous and cumbersome, or so reduce the dose of each constituent as to injure the force of the combination.

The propriety of combining several **stimulants**, of the diffusible class, in one formula, has been questioned on different grounds. Dr. Chapman suggests an important exception to the practice in question. "By directing," says he, "stimulating remedies separately, we shall economize our resources in many lingering diseases." The justness of this statement must be admitted to its fullest extent, and practitioners will, on certain occasions, do well to act in conformity with the views that suggested it. For instance, in the feeble forms of protracted fevers, where the indications are to be met with the continued action of stimulants, it will certainly be salutary to alternate the use of remedies of a similar nature, in preference to presenting them all at once in combination.

But there remains a still more important precaution respecting this law of medicinal combination: that in combining substances in the manner and for the object just related, the practitioner should be well satisfied that their virtues are in reality practically similar, or he will fall into an error of the most fatal tendency. Medicines are not necessarily similar because they have been arranged in the same artificial division of remedies. In order to establish a perfect similarity, their operations must be found by experience to continue similar under every condition of the human body; and, moreover, they must owe such similarity to modes of operation which are compatible with each other, and consonant with the general mode of cure.

The individual medicines which compose the class of diaphoretics vary no less in their primary operations. Thus, in the cure of intermittent fevers, diaphoretics are useful in both the paroxysm and during the intermission: in the first case they shorten its duration; in the second they support the tone of the extreme vessels, and prevent its recurrence. But in these opposite states of disease a very different kind of diaphoretic is required: to fulfil the first indication, a cooling and relaxing one is necessary; to answer the second, the stimulating diaphoretic is exacted; the one may be said to solicit, the other to extort perspiration. So, again, EMMENAGOGUES can only be considered relative agents, since the suppression of the catamenia may depend upon, or be connected with, very different states of the system; in some cases with a diminished, and in others with an increased state of excitement: for on many occasions the suppression of the menses is the effect and not the cause of disease. It is a most dangerous error to ascribe all the diseases of young females to a retention of the catamenia, which often do not appear because the patients are disordered from other causes. If, therefore, we were to attempt a combination of the several medicines which have gained reputation as emmenagogues, it is very obvious that we should bring together an assemblage of adverse and incompatible remedies; nor would the physician be less inconsistent were he to combine expectorants without a due regard to their modes of operation. It is only necessary to observe their classification, to become satisfied how greatly the success of such remedies must depend upon their scientific adaptation to each particular case.

The class of anti-spasmodics may likewise embrace remedies of the most opposite tendency, for spasm may occur under the most opposite circumstances—in an extreme condition of weakness, as in nervous affections, and in a highly-excited state, as in colic, &c. It is hardly necessary, therefore, to point out the mischief that must arise from the fortuitous and indiscriminate admixture of the individual substances which are thus unavoidably arranged in the same artificial classification. Bark and steel are also too often considered as equivalent tonics. "In dropsy," says Dr. Blackall, "it is far otherwise—the former being infinitely to be preferred after the dropsy of young persons, of acute disease and of sound stamina; the latter being suited to a vitiated rather than to a feeble habit, and indicated more by a pale, sallow complexion, and a want of red color in the blood, as shown by the paleness of the lips, than by any other signs." The terms, therefore, employed to denote the different classes of remedies, are frequently but relative ones, expressive of effects which are produced only in reference to a particular state of the living body; and as this necessarily varies in different states of health and disease, it follows that medicines are convertible agents, and that when we attempt to institute general rules respecting their administration, without taking into consideration the constitution and circumstances of the patient, we shall generally be disappointed in the result. We may say of medicines what Van Swieten said of diet: "To assert that such or such a thing be wholesome, without a knowledge of the condition of the person for whom it is intended, is like a sailor pronouncing the wind to be fair, without knowing to what port the vessel is bound."

Sir John Pringle speaks of the advantages which may be obtained by combining an alkali with a bitter infusion, by which the diuretic effects of the former will be increased, while the latter is calculated to remove any gastric debility, and to impart a general tone to the body.

From all the evidences as yet presented it appears that certain elements exist in the composition of vegetable remedies, as furnished by nature, which, although individually inert, confer additional strength and impulse upon the principle of activity with which they are associated; and if this be true, it should certainly be borne in mind when prescribing the alkaloids and what are called the active principles of plants, for it recognises two orders of medicinal elements—the one comprehending those that possess an inherent and independent activity; the other, those that are in themselves inert, but which are capable of imparting impulse and increased energy to the former when combined with them. When the structure of vegetable remedies shall have been thoroughly examined upon the principle of combination, much medicinal obscurity will be removed, and probably some pharmaceutical improvements of value suggested: at all events, it will teach a lesson of prudent caution to the pharmaceutic chemist; it will show the danger of his removing this or that element from a vegetable compound, merely because he finds, upon its separation, that it is inert. There never was a period in the history of medicine at which such a caution was more necessary; for while the polypharmacy of our ancestors has driven the physician of the present day into a simplicity of prescription that on many occasions abridges his powers and resources, the progress of chemical knowledge has diffused through the class of manufacturing chemists a bold spirit of adventure and empiricism—a mischievous propensity to torture our best remedies, in order to concentrate or extract the parts which they consider to constitute their essential ingredients.

It is sometimes necessary in the administration of an agent to combine with it some substance to obviate any unpleasant effects which it might occasion, and which would defeat the object of its exhibition. This may be done by mechanically separating or chemically neutralizing the offending ingredient. The scientific physician is enabled to remove or render inert the element which imparts to a medicine a deleterious operation. Thus it has been found that the peculiar principle in the Spanish fly, which so frequently irritates the urinary organs, is soluble in boiling water: ebullition in water, therefore, offers the means of depriving it of the power of thus acting upon the kidneys, while it does not effect any alteration in its vesicatory properties. It is upon the same principle that many vegetable substances of a very acrid nature become harmless by boiling, or by chemical manipulation, and some of them might even, in times of scarcity and want, be introduced as wholesome and nutritious articles of diet. The bitterness of the *Lichen islandicus* may be entirely removed by maceration in an alkaline ley, and a tasteless but highly-nutritious fecula be obtained. In the same manner the horse-chestnut may be deprived of its bitterness, leaving a residuum which will afford a kind of bread, &c. By a similar species of address the French prepare from the acrid *Arum* the harmless but highly-prized cosmetic called Cyprus-powder.

The object aimed at is also attained by adding some substance capable of guarding the stomach or system against its deleterious effects. Dr. Mead combined alkaline salts, when intended to act as diuretics, with opium, in order to prevent their action upon the bowels; some obnoxious agents, when administered in cases of hemoptysis, or uterine hemorrhage, are often guarded by the addition of a small portion of the same narcotic; the griping and nauseating tendency of other remedies receives correction by the addition of aromatic stimulants or essential oils, or by small portions of a corresponding tincture. Sir Henry Halford, in his practice, has found the addition of extract of hyosciamus to render the operation of the compound extract of colocynth much more mild, and no less efficacious; and upon the same principle the extract of hyosciamus, mixed with mandrake, will prevent the griping effect of the latter article. Alum is corrected in its tendency to disturb the bowels by the addition of nutmeg, or some aromatic; and the drastic operation of colocynth may be mitigated by trituration with camphor. There are several substances which are deprived of their acrimonious qualities by trituration with mucilage, milk, barley-water, &c. In some cases it has been found that a combination of the watery infusion of opium with some bitter, will secure the narcotic virtues without those consecutive effects upon the alimentary canal which we are always so desirous to obviate.

Sometimes the unpleasant or perverse operation of a medicine may be obviated by changing the form of its exhibition, the period at which it is taken, or the extent of its dose. For instance, the nauseating operation of some remedies might be obviated by repeating small doses at short intervals. It also deserves notice that there is frequently a chemical condition of the stomach that may interfere with the mild operation of a medicine, and may therefore require consideration. This is particularly exemplified in the action of those preparations which are liable to become emetic and drastic by the presence of an acid: it is, for this reason, very eligible to guard such substances with antacid adjuncts. The vinous infusion of colchicum appears to act more violently when acid is present in the stomach; small doses of magnesia or an alkali may therefore precede and accompany its exhibition with advantage.

We may frequently combine substances together whose modes of operation are dissimilar, with considerable advantage, provided they be not physiologically incompatible with each other. A series of medicinal substances may be produced, each of which has the property of exciting catharsis, but by a different mode of action: one, for instance, stimulates the muscular fibres of the intestines; a second acts upon the exhalent vessels and mucous glands; and a third exerts its influence upon the neighboring organs, so as to produce an increased flow of their secretions into the bowels; but since such modes of action are quite compatible with each other, they may be simultaneously established, not only without any loss of efficacy, but with the most decided advantage. This principle was kept in view (a judicious combination to act uniformly upon every part of the alimentary canal) in making the formula of our *Anti-Bilious Physic*, and it forms one of the best examples of efficiency in compounds of this character.

The practice suggested by Drs. Stoll and Warren, of England, in the treatment of colica pictonum, affords a striking example of the expediency of combinations of this nature. It is found in that disease, as well as in others attended with spasmodic constriction of the intestinal canal, that purgatives produce no effects unless the spasm be allayed by combining them with narcotics. It is from such a cause that the purgative which consists of aloes, with *Sagapenum* or *Galbanum*, affords such prompt relief in spasmodic colic.

Purgatives with Tonics.—In the exhibition of cathartics, how frequently it occurs in practice that the patient's strength will hardly allow the evacuation! In such a case, the addition of steel as a corroborant, or even of ether or ammonia as a diffusible stimulant, is strongly indicated. So, again, in the cure of dropsy, we have often two indications to fulfil—to evacuate the water, and to support the strength of the patient; hence the necessity of combining or giving brisk and stimulating purges with active tonics.

Frequently the practitioner is desirous of determining to the skin, and at the same time of supporting the strength of the general system. In the progress of a continued fever we are repeatedly called upon to fulfil such indications. Dr. Bree observes that "in the exhibition of diaphoretics the addition of a bitter infusion or tincture is frequently proper, for the stomach should be gently excited and strengthened during the use of a diaphoretic draught." On the other hand, tonics not unfrequently require the aid of a diaphoretic.

Dr. Fordyce has observed that combinations of astringents with diaphoretics are often indicated in cases of diarrhœa, where it is necessary to astringe the vessels of the intestines, and at the same time to relax those of the skin. Such an indication may be fulfilled by exhibiting our *Diaphoretic Powders*.

It has been remarked that in a diarrhœa depending upon the influx of acrid fluids into the intestines, there are three modes of treatment by which the malady may be obviated, viz., by a narcotic, diminishing the irritability of the intestines; by an astringent, restraining the serous excretion; and by an absorbent, neutralizing the acrid matter. As the modes of action are not incompatible with each other, they may be simultaneously established with the greatest advantage, as we see in the administration of our *Neutralizing Mixture*.

Astringents with Tonics.—A combination of certain medicines belonging to these two classes is frequently indicated. In the treatment of passive hemorrhage, we have to astringe the bleeding vessels, and to cure the hemorrhagic diathesis, by remedies which are capable of restoring the general tone of the system. In the treatment of *fluor-albus* this is very manifest in exhibiting the *Restorative Wine Bitters*, combined with an astringent, which often has an excellent effect.

In the exhibition of tonic medicines it is frequently essential to accompany their operation with stimulants. In intermittent fevers, for instance, a cure can not be effected without such stimulants—a fact borne in mind in the compounding of our *Fever and Ague Powders*, and in the exhibition of which, after proper evacuations, we meet with such decided success.

Sydenham said that, "*to add any thing to the bark, argues either ignorance or craft*"—to which Sir George Baker replied that "there is less of reason than of severity" in the remark; for that it was found in the cure of the intermittent fever, which he describes, that, according to circumstances, sometimes the Virginia snake-root, and in other cases myrrh, were added with advantage; and, according to the experience of several practitioners, a dram of the rust of iron, and the same quantity of the powder of black pepper, added to each ounce of bark, were the means of subduing the most inveterate agues.

In the cure of cardialgia, we have obviously two indications—to neutralize the offending acid by an alkali, and to correct the morbid state of the digestive functions by some appropriate remedy. The same observation will apply in the treatment of certain cases of chlorosis, where cardialgia is not unfrequently a very vexatious attendant, and solicits the union of emmenagogues with tonics and preparations of potash.

As a palliative in calculous irritation, the union of alkalies and narcotics proves a valuable resource. We have also frequently two important indications to fulfil in the treatment of urinary concretions: where the lithic-acid diathesis prevails, it will be necessary to neutralize any acidity in the first passages, and at the same time to regulate the functions of the skin; we have, moreover, to give tone to the digestive organs; so that, in such cases, the art of medicinal combination is well calculated to extend our resources. In the formation of these compounds we should rarely attempt to fulfil more than two indications, although cases may occur in which it will be eligible to assail the disease with an engine of *triple* powers.

In constructing such complex arrangements the practitioner must take care not to fall into the error of *contra-indication*, and combine properties essentially different, and which are at variance with or directly opposed to each other. It is a most serious error, and unfortunately one of too common occurrence in the lower walks of medical practice. "*Crimine ab uno disce omnes.*" Dr. Paris relates that a country practitioner in England, upon being asked by a lady whom he attended, the intention of three different draughts which he had sent her, replied that one would warm, the second cool her, and that the third was calculated to moderate the too violent effects of either! Thus it is that discredit and contempt fall upon the use of medicines, which ought only to attach to the ignorant pretenders or designing knaves who administer them.

As we have before hinted, many of our most valuable vegetables owe their useful properties to the joint operation of the several distinct and different ingredients which enter into their composition. How many substances does nature produce in the vegetable kingdom, in which the permanent tonic quality of bitterness exerts its influence in union with the transient stimulating powers of an aromatic principle! Indeed, there is a series of remedies of this kind: commencing with those that are simply bitter, we gradually proceed through the different species, each blending as we advance an increasing proportion of aroma, until we arrive at those in which the aromatic quality greatly predominates. Peruvian bark may be said to combine within itself the properties of bitterness, astringency, and aroma—a fact which suggested the probability of our being able to produce an artificial compound that might emulate the effects of *Cinchona*, and to a certain extent the idea appears to have been realized, for we are told that Dr. Cullen frequently succeeded in the cure of an intermittent by a combination of oak-bark and gentian, when neither bitters nor astringents, taken separately, produced the least impression. Dr.

Harrison, of England, never employed any other remedy for curing the ague than equal parts of *Bistorta* (astringent) and *Calamus aromaticus* (bitter and aromatic), neither of which plants, individually, ever produced the least benefit in such diseases. Dr. Young attempted to produce a compound of this description by adding to the bark of the ash some tormentil-root and ginger; and he observes that it acted as an excellent tonic, and that according to the experiments of his friends, it seemed to cure quartan agues. In the aromatic barks and woods, such as those of the cornus, sassafras, &c., the aromatic principle is combined with a bitter ingredient—a union which proves of singular service in the formidable bowel-complaints so common in tropical climates.

The great superiority of the hop, as an ingredient in malt liquors, depends upon the fact of its containing several distinct and independent elements of activity, which the other bitter herbs that have been employed as its substitute do not possess. The philosophy of its operation may be adduced as a striking illustration of the present subject. First, then, it contains a bitter principle, which imparts to the beverage a tonic quality and an agreeable flavor, while at the same time an aromatic ingredient adds a warm and stimulant property, and modifies the bitterness; the hop, moreover, contains an astringent ingredient (tannin and gallic acid).

Rhubarb is another medicinal plant which may be brought forward in elucidation of the analogies subsisting between natural and artificial combinations. In this case Nature has presented us with a singular and most important union of medicinal powers—that of an astringent, with a cathartic property! virtues which we might, without the light of experience, have pronounced to be incompatible with each other; and yet we find that in this instance the property of astringency never interferes with or opposes the purgative force, since the former does not display itself unless the substance be administered in small doses, or, when given in larger ones, not until it has ceased to operate as a cathartic.

We combine medicines sometimes, to obtain a new and active remedy not afforded by any single substance. This constitutes by far the most obscure part of the subject of medicinal combination, and must ever continue so until we become better acquainted with the laws which govern the action of medicinal substances upon the living system. That the most valuable effects, however, are really produced by such arrangements, we have the testimony of long experience, and examples are furnished in the valuable and well-known operation of many officinal preparations. Thus the "*pulvis Ipecacuanhæ compositus*" contains, as its active elements, opium and ipecacuanha; and yet, in well-regulated doses, it neither possesses the narcotic operation of the former, nor the nauseating effects of the latter: they appear to be mutually lost, and converted into a powerful diaphoretic. Dr. Bree has observed that tincture of squills, combined with extract of henbane and nitric acid, has been proved by much experience to be expectorant and sedative in a paroxysm of asthma, although each article, uncombined, had been given without success.

Many interesting and important agents have been and may be hereafter derived from an extended knowledge of vegetable chemistry. Recent analysis has already developed principles of extreme activity from several of our most esteemed plants, the properties and application of which are fully explained under the history of the different substances which contain them.

After the views which have been submitted, it is evident that the form in which a remedy is exhibited may exert some influence upon its medicinal effects. In general, it must be adapted to the extent of the dose—the nature of the remedy—its degree of solubility—the objects it is to fulfil—and, as far as can be attained with propriety, to the caprice of the patient.

When a substance, or a combination of substances, requires the addition of some other one for the purpose of imparting a convenient, agreeable, or efficacious form, a vehicle should always be selected whose effects will be likely to correspond with the intention of the other ingredients.

Some medicines are more grateful to the stomach, as well as more efficacious in their operation, when exhibited in a state of effervescence. We must, however, be careful that their properties are not injured by such a combination.

"Such are the objects," says Dr. Paris, "which are to be attained by combining several substances in one formula, and such are the laws by which these compositions are to be regulated; but unless a physician can satisfactorily trace the operation of each element in his prescription to the accomplishment of one or more of the objects which I have enumerated, SIMPLICITY should be regarded by him as the greatest desideratum. I was once told by a practitioner in the country that the quantity, or rather complexity of the medicines which he gave his patients (for there never was any deficiency in the former), was always increased in a ratio with the obscurity of their cases. 'If,' said he, 'I fire a great profusion of shot, it is very extraordinary if some do not hit the mark!'"

Sir Gilbert Blane has given us a similar anecdote. A practitioner being asked by his patient why he put so many ingredients into his prescription, is said to have answered more facetiously than philosophically, "In order that the disease may take which it likes best!" A patient in the hands of such a practitioner has not a much better chance than the Chinese mandarin who, upon being attacked with any disorder, calls in twelve or more physicians, and swallows in one mixture all the potions which each one separately prescribes!

Let not the young practitioner, however, be so deceived. He should remember that unless he be well acquainted with the mutual actions which bodies exert upon each other, and upon the living system, it may be laid down as an axiom, that *in proportion as he complicates a medicine, he does but multiply the chances of its failure. Superflua nunquam non nocent:* let him cherish this maxim in his remembrance, and, in forming compounds, always discard from them every element which has not its mode of action clearly defined, and as thoroughly understood.

Dr. George B. Wood, of Philadelphia, makes the following judicious remarks, which should be well heeded by the young practitioner in every form of prescription:—

"It is a question of great importance, how far it may be proper for the physician to interfere in the management of diseases. There is no doubt that too much may be and often has been done, and that as much evil may accrue from this cause as from doing too little. The young practitioner should be strongly impressed with the truth that, in the great majority of cases, disease will end in recovery, whether under treatment or not. He is not to suppose that every instance of recovery under his management is a cure. The prevalence of empiricism is, in a considerable degree, ascribable to the popular error that a favorable termination of disease is always owing to the means employed. Patients often survive improper and even injurious treatment, and, believing themselves cured, naturally acquire confidence in the practitioner, or in the supposed remedy. Medical men may do much toward obviating the evil, by imbuing the popular mind with accurate notions in this respect. But they should especially guard themselves against a participation in the error. An impression that medicines are essential or important, in all cases, will often lead to their unnecessary and even to their injurious employment. It can not be doubted that diseases which, if undisturbed, would have spontaneously terminated in health, have often received an unfavorable turn from officious interference."

The perfection of a medicinal prescription may be defined by three words: it should be PRECISE (in its *directions*), CONCISE (in its *construction*), DECISIVE (in its *operation*). It should carry upon its very face an air of energy and decision, and speak intelligibly the indications which it is to fulfil. It may be laid down as a position which is not in much danger of being controverted, that *where the intention of a medicinal compound is obscure, its operation will be imbecile.*

A medicinal formula has been divided into four constituent parts, a division which will be found to admit of useful application to practice, inasmuch as it was evidently suggested with a view of accomplishing the more prominent objects which have been related in the preceding pages; or, in the language of Asclepiades, of enabling the BASIS to operate *cito*, *tuto*, *et jucunde*—quickly, safely, and pleasantly. Thus—

1. THE BASIS, or principal medicine *(curare)*.
2. THE ADJUVANS; that which assists and promotes its operation *(cito)*.
3. THE CORRIGENS; that which corrects its operation *(tuto)*
4. THE CONSTITUENS; that which imparts an agreeable form *(jucunde)*.

These elements, however, are not all necessarily present in every scientific formula, for many medicines do not require any addition to promote their operation, and the mild and tractable nature of others renders the addition of any corrective unnecessary; while many, again, are in themselves sufficiently manageable, and do not therefore require the *intermede* of any vehicle or constituent. It also frequently occurs that one element is capable of fulfilling two or more of the objects required: the adjuvans, for instance, may at the same time act as the corrigens or constituens. Thus the addition of some articles to aloes mitigates their acrimony, and at the same time quickens their operation. So, again, neutral salts both quicken and correct the griping which attends the operation of resinous purgatives, as in the infusion of senna and manna.

Chemical and pharmaceutical errors may be committed in the composition of extemporaneous formulæ in two ways:—

1. Substances are added together which are incapable of mixing, or of forming compounds of uniform and suitable consistence.

2. Substances are added together which mutually decompose each other, whence their original virtues are changed or destroyed.

The practice of combining certain vegetable tonics with alkalies, though formerly very common, is, in cases where we are desirous to obtain their *astringent* effects, of very doubtful propriety; for the fact is, that tannin forms, with the alkalies and alkaline earths, compounds that are not soluble in water, and which are therefore probably inefficacious. It may perhaps be said that such an argument can not avail, because if the astringent matter be even introduced into the stomach in its purest form, it will immediately form an insoluble compound on its contact with *gelatine*. We know so little of the laws of *gastric chemistry*, that it is difficult to learn what changes take place in the animal laboratory; but it would seem probable that the powers of the stomach rather consist in decomposing the ingesta into simpler forms, than in complicating them by favoring new combinations; besides which, if such a compound were formed, it would be subsequently decomposed *in transitu*, for the experiments of Sir Humphrey Davy show that vegetable astringent matter passes through the body unchanged.

It is impossible to furnish any general rule that may enable the practitioner to avoid mixing together substances which are incompatible with each other. A knowledge of their chemical action must in every case direct him, as noted under the history of each medicinal substance.

The file of every apothecary would furnish a volume of instances where the ingredients of the prescription are fighting together in the dark, or at least are so adverse to each other as to constitute a most incongruous and chaotic mass.

In dismissing this portion of pharmacy, which is adapted to the present state of our knowledge upon the subject, as founded upon and verified by the experience and observation of the past, we will only make one remark. Our views of pathology have instructed us that the causes of disease are few, although that disease may manifest itself in a thousand different forms and be called by a thousand different names. In another part of this volume we have denominated botanical agents as the strong right arm of our system, by which we grapple with and conquer disease, and have indulged in the speculation that it may yet prove the *sole* and *only* means necessary to effect this object. While thus speculating, we might go still further: vegetable chemistry has undoubtedly tended much to the simplification of prescriptions; and the use of the alkaloids, resins, and active principles of plants, has opened the minds of reflecting physicians to new views of the administration of remedies which have yet to be tested by careful experiments, close observations, and gradual approximation to results; by which, although he can not hope to realize the dreams of the ancient alchemists, and produce the universal catholicon, he may approach that degree of knowledge which shall give him *specific remedies*, either simple or compound, for *specific diseases.*

THE DOSES OF MEDICINAL SUBSTANCES.

These are specific with respect to each, and can therefore be only learned from experience. The young practitioner, however, is too often betrayed into the error of supposing that the powers of a remedy always increase in an equal ratio with its dose, whereas *the dose alone very often determines its specific action.* "Medicines," says Linnæus, "differ from poisons, not in their nature, but their dose"—which is but a paraphrase of the well-known aphorism of Pliny: "*Ubi virus, ibi virtus.*"

Powerful doses of medicine appear rather to produce a local than general effect. Experience seems to prove in this respect that the effect of an internal application is similar to that of an external impression: if violent, it affects the part only, as pinching does that of the skin; whereas titillation, which may be said to differ only from the former in degree, acts upon the whole system, and occasions itching and laughter, and if long continued, weakness, sickness, vomiting, and convulsions. In like manner, ipecacuanha and digitalis, if given in large doses, act immediately upon the stomach or bowels, becoming emetic and cathartic, but in smaller proportions they produce a *general* effect, increasing all the excretions, especially that of urine. The regulation of the dose of a medicine is even more important than it is usually supposed to be.

In some cases, *substances perfectly inert and useless in one dose, may prove in another active and valuable.* Hence may be explained the great efficacy of many mineral waters, while the ingredients which impart activity to them are found comparatively inert when they become the elements of an artificial combination; and hence probably the failure of many alterative medicines, when no other rational cause can be assigned for it. We need not seek far for an example of the very different and opposite effects which the same substance can produce in different doses. The operation of common salt is familiar to us all. Sir John Pringle has shown that in quantities such as we usually take with our food, its action is highly septic, softening and resolving all meat to which it is applied, whereas in larger quantities it actually preserves such substances from putrefaction, and therefore, when so taken, instead of promoting, destroys digestion.

It is, moreover, probable that medicinal, like nutritive substances, are more readily absorbed into the circulating system when presented in small quantities, than when applied in more considerable proportions. It is upon this principle that a large quantity of food, taken seldom, does not fatten so much as smaller quantities at shorter intervals, as is exemplified in the universal good condition of cooks and their attendants. It is not pressing the principle of analogy too far to suppose that the action of alteratives, which require to be absorbed, may be more effectually answered by similar management—that is, *by exhibiting small doses at short intervals.*

The operation of medicines is influenced by certain general circumstances, which should be also kept in mind when we apportion their dose: for example, *age—sex—temperament—strength of the patient—habit—diet—profession—climate—duration of the disease—state of the stomach—idiosyncrasy—and the variable activity of the medicinal substance.*

Women generally require smaller doses than men. Habit, or the protracted use of a medicine, generally diminishes its power, although certain cathartics appear to offer an exception, for, when long continued, their activity is proportionally increased. Emetics also frequently become more powerful by repetition, but this is probably the effect of the mind, for after the frequent use of such a remedy, the mere sight of it, or even conversation relative to it, will excite nausea. In some cases, however, it is different.

In apportioning the dose of a very active medicine, it is of the greatest moment to determine the relative degrees of power between the system and the remedy, and to know to what extent the latter is likely to be carried, consonantly with the powers of life to resist it. A dose of medicine that will purge one man, will have no effect on another. So, after a patient has been exhausted by protracted and severe suffering and watching, a dose different from one at the commencement of the disease is requisite. The importance of this precept is impressed upon my mind from having witnessed, in the course of my practice, several instances of the mischief which has arisen from a want of attention to it. That disease materially influences the condition of the body, and its susceptibility to remedial impressions, has been already demonstrated. Emetics act very readily in febrile affections, while in other diseases they produce their effects with difficulty.

The variable activity of a medicine should also be appreciated, and perhaps the practitioner would act cautiously if he were to reduce the dose, should it be a very considerable one, whenever a fresh parcel of the medicine is commenced, especially of the powders of active vegetables liable to deterioration from being kept.

The time of the day at which remedies should be administered deserves likewise some attention. Evacuating medicines ought to be exhibited late at night or early in the morning. It would seem that during sleep the bowels are not so irritable, and consequently not so easily acted upon, which allows time for the full solution of the substance. The same observation applies to alterative and other medicines, which are liable to suffer from a vexatious irritability of the bowels.

In fevers, it is of importance to consult in all respects the quiet and comfort of the patient. Dr. Hamilton, of England, therefore, in his valuable work on "Purgatives," very judiciously observes that, on this account, the exhibition of purgative medicines should be so timed that their effects may be exhibited during the day.

In some cases the time of administering a remedy must be regulated by the stage of the disease. Thus, in fevers, a dose of medicine may either increase the heat of the body, augment thirst or restlessness, or occasion tranquillity and sleep, according to the temperature of the body at the time of its administration. For this reason Dr. Currie advises not to give the evening anodyne in typhoid fevers till very late, or about one or two o'clock in the morning, when the heat is subsiding, and moisture is coming on. Emetics administered for the cure of the slighter cases of fever should be given in the evening, as their operation leaves a tendency to sleep and diaphoresis, which it is useful to promote. Remedies that require to be *absorbed* will probably be more efficient in the morning after sleep. The old custom of giving medicines on a morning *fasting*, is not quite so absurd as some modern practitioners suppose.

The intervals between each dose must be regulated by the nature of the remedy and that of the objects which it is intended to fulfil, and whether it be desirable or not that the latter dose should support the effects of the preceding one, or whether there be any fear of a reaction or collapse taking place after the effect of one has subsided, unless immediately repeated. In the case of diaphoretics, we ought not to allow the period between the doses to be so remote as to occasion any striking abatement in the impression. So of an anodyne: where its primary and stimulant operation is required, as in diseases of debility, such as fevers of the typhoid type, it should be given in small doses at short intervals, so that it may enkindle and sustain a uniform and regular state of excitement; but where the object is to mitigate pain, allay irritation, and produce sleep, it ought to be exhibited in full doses, at distant intervals.

Constitutional peculiarities or *idiosyncrasies* will sometimes render the operation of the mildest medicine poisonous. "*Virum novi*," says Gaubius, "*qui cum fatuum lapidum cancrorum pulvisculum ingessit, vix mitius afficitur quam alii ab arsenico.*"—"I have seen," remarks Dr. Paris, "a general erysipelas follow the application of a blister; and tormina of the bowels, no less severe than those produced by the ingestion of arsenic, attend the operation of purgatives composed of senna! In some constitutions antimony has been known to produce a ptyalism: Dr. James assured Sir George Baker that he knew six instances of it, although the patients thus affected had neither their teeth loosened nor their breath made offensive. The peculiar susceptibility of certain individuals to the effects of particular plants is also very singular. Murray relates that unpleasant symptoms have been experienced by merely keeping aconite for some time in the hand or on the bosom. I am acquainted with two persons in whom the odor of ipecacuanha always produces a most distressing dyspnœa. There are some idiosyncrasies so singular and incredible, that nothing but unimpeachable testimony could sanction our belief in their existence. Schenkius relates a case in which the general law of astringents and cathartics was always reversed! Donatus tells us of a boy whose jaws swelled, whose face broke out in spots, and whose lips frothed, whenever he ate an egg! Education and early habits certainly establish very extraordinary peculiarities in different countries with respect to various objects of diet and luxury. What shall we say of the refinement of the ancients, who regarded the flavor of the citron with disgust, while the odor of putrid fish was deemed by them so exquisite, that they carried it about in caskets of onyx as a favorite perfume!"

TABLES OF DOSES, ETC.

As a general rule, the following table of doses will be quite sufficient; but much must always be left to the discretion of the prescriber, who alone can judge of the constitution of the patient, and the state of the case:—

A person from fourteen to twenty years of age may take two thirds of a dose intended for an adult.
From nine to fourteen, one half.
From six to nine, one third.
From four to six, one fourth.
From two to four, one sixth.
From one to two, one tenth.
Below one year, a twelfth.
A woman should generally take a little less than a man.

APOTHECARIES' WEIGHT.

A pound contains twelve ounces.
An ounce, eight drams.
A dram, three scruples.
A scruple, twenty grains.

MEASURE FOR LIQUIDS.

A pint contains sixteen ounces.
An ounce, eight drams.
A tablespoonful is about half an ounce.
A teaspoonful is one fourth of a tablespoonful.
Sixty drops make one teaspoonful.

The degree of fineness to which substances should be reduced by pulverization, in order to obtain their utmost efficacy, is an important question. The impalpable form appears to be extremely injurious to some bodies, as to cinchona, rhubarb, guaiacum, and to certain aromatics, in consequence of an essential part of their substance being dissipated or chemically changed by the operation. Fabbroni, for instance, found by experiment that cinchona yielded a much larger proportion of soluble extractive when only coarsely powdered. I think it may be laid down as a general rule, that extreme pulverization assists the operation of all substances whose active principles are not easily soluble, and of compound powders whose ingredients require, for their activity, an intimate intermixture; while it certainly injures if not destroys the virtues of those which contain as their active constituents a volatile principle easily dissipated, or extractive matter which is readily oxydized. This remark, however, applies to powders which are made by grinding or other modes of pulverization, where heat is generated in the process; if powdered at a temperature low enough the difficulty complained of may be obviated.

It is evident that in the construction of compound medicinal powders, the addition of an inert ingredient, which the mere chemist might condemn and discard as useless, not unfrequently acts a very important part in the combination, owing to its effects in dividing and comminuting the more active constituents. The sulphate of potassa in Dover's powder acts merely in dividing and mixing more intimately the particles of opium and ipecacuanha. In the compound powder of jalap, the cream of tartar greatly increases the activity of the jalap, by breaking down its substance and dividing its particles; and Van Swieten observes that the operation of this resinous purgative is improved by bruising it with sugar, and adding some aromatic. So it is daily observed in regard to an innumerable number of compounds.

PHARMACEUTIC APPARATUS.

The "Dispensatory" of Drs. Wood and Bache contains many valuable suggestions on this subject, the substance of which we extract:—

Mechanical Division.—"For the greater part of those drugs that are powdered in the shops, iron, brass, glass, or Wedgewood mortars, are to be used: the two former for hard substances requiring repeated blows; the latter for those which are friable and can be reduced to powder by trituration. The interior surface of the mortar should be concave and nearly spherical, and care should be taken not to impede the operation by overloading and clogging the pestle. In powdering acrid substances, the mortar should be covered with a board perforated in the centre for the pestle. The operator should guard himself against the fine particles of very acrid substances, by standing with his back to a current of air, and covering his nostrils with a wet cloth. Various means are used to facilitate the operation of powdering. All vegetable substances must be carefully and thoroughly dried. Resins, gum-resins, and gums, must be powdered in cold frosty weather. Tragacanth and nux vomica must be dried in a stove heat, and powdered while hot. The fibrous roots, as licorice and marshmallow, should be previously shaved into thin transverse slices. Agaric is to be powdered by beating it into a paste with water, then drying and triturating it. Cloves and the aromatic seeds may be ground in a hand-mill and afterward triturated. Squill and colocynth, the comminution of which is sometimes aided by soaking them in mucilage of tragacanth and then drying, are best powdered in a dry atmosphere, after being thoroughly dried in a stove heat. Camphor requires the addition of a few drops of alcohol. The efflorescent salts may be obtained in the state of fine powder by exsiccation; and those which are insoluble in alcohol may be precipitated by it, in an impalpable powder, from their aqueous solution.

"In the operation of powdering, the fine particles are to be separated from time to time by sifting. Fine sieves should be made of that sort of raw silk called bolting-cloth; coarser ones of wire, hair-cloth, or gauze. Valuable or aromatic powders should be passed through box-sieves, which are sieves provided with covers for the top and bottom, that shut up so as to prevent all waste.

"Ivory, horn, nux vomica, wood, and iron, are prepared for pharmaceutic purposes by filing or rasping; guaiacum-wood by turning in a lathe; roots, stalks, and leaves, by cutting with a knife, such as is used for cutting straw. Tin and zinc are granulated by melting them, and strongly agitating while they are cooling; carbonate of potassa, by stirring the concentrated solution with a rod as it hardens.

"Earthy insoluble substances are conveniently reduced to powder by levigation. This is performed by moistening them with alcohol, and rubbing them on a hard flat stone with a muller or rubber of the same material. The powder may be rendered impalpable by agitating it with a large quantity of water, and pouring off the liquid to settle, after the coarser particles have subsided.

Separation of Solids from Liquids.—"Solids may be separated from fluids, when there exists no chemical action between them, by being allowed to subside. The supernatant liquid may then be carefully poured off, or drawn off by a syphon, or separated by filtering. Either the last operation, or expression by a stronger force, is necessary to separate the whole of the liquid.

"The most convenient material for a filter is unsized paper. This is to be folded into a cone, and placed in a glass funnel. It will serve for filtering tinctures, wines, saline solutions, watery infusions, and essential oils. When the liquid is too viscid to pass readily through paper, a cotton or woollen bag of a conical shape may be used. Acids may be filtered through a layer of fine siliceous sand, supported in the neck of a glass funnel by pieces of glass gradually decreasing in size. Castor-oil, sirups, and oxymels, may be readily filtered through coarse paper made entirely of woollen shreds. Melted fats, plasters, resins, and wax, may be *strained* through muslin stretched over a square frame or a hoop.

"The filtration of liquids which are altered by exposure to the air requires much caution. A very simple method of accomplishing it is, to insert a slender tube of glass into the funnel, long enough to reach below the neck, while the upper part is nearly as high as the funnel. The space between the tube and the neck must be filled with bits of glass and fine sand, so as to form a good filtering bed: the liquid is to be poured in, and the top of the funnel covered with a plate of glass. If this be luted on, and the funnel luted into the neck of a bottle, the process will be performed with perfect accuracy.

"*Expression* is required to separate the last portions of tinctures or infusions from the dregs. A screw-press is used for this purpose. The substance to be pressed is put into a cylinder of sheet tin, the sides of which are pierced with small holes. This is placed on a square tray of tin, having a lip for pouring. A block of wood fits into the cylinder and is placed on the top, and the whole is put under the screw-press, the pressure of which is gradually brought to bear upon it. This press is to be used for expressing the juices of fresh plants, which, previously to being pressed, must be well beaten in a mortar, and water added to those which are hard and dry.

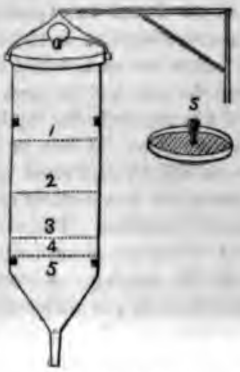
"The *clarification* of liquids may be effected by the addition of some coagulable substance, such as milk or an aqueous solution of ichthycolla. The white of an egg, beaten up with water, will coagulate by a gentle heat, and clarify any liquid with which it has been mixed. The vegetable acids will clarify many of the expressed juices of plants.

"A *sand-bath* is an indispensable part of the pharmaceutic apparatus. It is usually an iron pot or a shallow vessel of sheet iron capable of holding sand to the depth of four or six inches. It serves to regulate the action of the heat on vessels which do not bear a rapid change of temperature. It is sometimes heated to a red heat, as in preparing the mineral acids, though more frequently used for the evaporation of saline solutions and vegetable juices. The *water-bath* is to be used in all cases in which a heat above that of boiling water would be injurious. A very convenient one consists of two copper vessels, the upper one of which is well tinned. Where a temperature above that of boiling water, and not exceeding 228°, is required, the water-bath may be filled with a saturated solution of common salt.

"The common still and worm, the vessels in general use for *distillation*, are too well known to need description. A convenient still or alembic for small operations, which may be heated by a spirit-lamp, can be purchased in all our large towns. The top of the head is kept filled with cold water, and all escape of vapor is prevented by having an inner ledge to the still, and filling the space in which the head fits with water.

"The vapors of some volatile solids have the property of condensing into the solid form, either in mass or in a state of the most minute division. The operation in which this occurs is called *sublimation*. When the product is compact, it is called a *sublimat* when slightly cohering, it is called *flowers*. The operation is generally performed in sand-bath; and the apparatus consists of two vessels fitting each other, one being inverte over the other. The shape, size, and depth of the vessels, and the degree of heat to b applied, are regulated by the nature of the substance operated on.

"*Lixiviation* is a process used for separating a *soluble* from a porous *insoluble* bod It consists in placing the substance to be lixiviated in a vessel, the bottom of which covered with straw, &c., pouring water upon it, allowing the water to remain until satu rated, and then drawing it off through an opening at the bottom of the vessel. It is foun that if fresh water be poured on without disturbing the mixture in the vessel, it does n mix with the liquid already there, but percolates the solid particles, driving the saturate liquid before it; so that, for example, in lixiviating wood-ashes, if a gallon of water ha been poured upon the ashes, and allowed to become saturated with the alkali, we sha obtain, by this mode of proceeding, a gallon of strong ley, and immediately thereafter th water will become almost tasteless. The fact has been applied to the service of the phar maceutist, and has led the way to some valuable improvements in the mode of extractin the medicinal qualities of plants.



PERCOLATOR.

1. The Menstruum.—2. The Ingredients.—3. The Sand.—4. The Cotton or Tow.—5. The Strainer.

"The operation referred to is called by the French the *method of displacement.* Th accompanying engraving represents Boullay's filter, constructed on this principle. I consists of a long tin vessel, nearly cylindrical, but narrower at the lower end, which ha a funnel-shaped termination, for the purpose of being inserted in the neck of a bottle. A metallic plate pierced with holes, like a colander, and having a handle in the centre, fit accurately in the lower part of the cylinder. Upon this, previously covered with a thi layer of carded cotton, is placed the substance upon which it is intended to operate, an which should be coarsely powdered or mashed in a mill. It must then be saturated wit the menstruum, which is done by pouring on the liquid from time to time until it wil absorb no more, and then allowing them to remain for a few hours in contact. On th top of the powder is placed another similarly pierced plate, and fresh portions of th menstruum are gradually and successively added, until all the sensible properties ar extracted. The first portion, that with which the powder is mixed, flows off very highl concentrated, while the next is much less so, and the successive infusions rapidly becom weaker.

"*Precipitation* is sometimes mechanical, as in the process of *levigating* and *elutriatin* the carbonate of lime, and sometimes chemical, as in the preparation of this salt by decomposing chloride of calcium. When a precipitant is directed to be added until n further precipitation takes place, the fact may be ascertained by taking a drop of th liquid on a glass plate, and trying it with the precipitant. The formation of a precipitate is often much assisted by agitation or by heat. The separation of the supernatant liquid from the liquid is most effectually accomplished by means of a syphon. When the liquid is a saline solution, it is necessary to wash the precipitate until the water exhibits no trace of the salt. In doing this, great care must be taken to select the purest and clearest water, and the ultimate drying of the precipitate must be performed in a filter, or on a porous stone.

"The pharmaceutist should be provided with pallet-knives of wood, bone, and horn, as well as of steel. It should be an invariable rule to clean every knife and graduated measure immediately after it is used, and to put the dirty mortars apart from those which are clean. Too much particularity and order in all the minute details of the shop can not be practised. The counters and scales should be cleaned once a day, and brushed as often as they become dusty. The bottles should be replaced as soon after being taken down and used as possible, and should on no account be changed from their accustomed place on the shelf. For the proper preservation of leaves, flowers, aromatic powders, and other medicines to which light is injurious, the bottles should be coated with tin foil or black varnish.

"No compounder should be destitute of a set of *troy weights*; as without them he will find it difficult to comply with the officinal directions for the preparation of his medicines. In dispensing medicines, no vial or parcel should be suffered to leave the shop without its appropriate label; and this, as in the case of prescriptions, should always be the physician's direction as to the manner of taking it, and likewise the name of the medicine. The prescription, or a copy of it, should, in every instance, be retained and numbered, and the same number marked on the bottle or parcel. Everything connected with the shop, and the dispensing and putting up of medicines and parcels, should be characterized by *neatness*, *accuracy*, *system*, and *competent knowledge*."

LIST OF COMPOUNDS AND PREPARATIONS.

The different medical compounds and preparations used in our system of practice may be arranged under the following heads:—

1. Balsams.
2. Bitters.
3. Caustics.
4. Cordials.
5. Decoctions.
6. Drops.
7. Electuaries.
8. Emulsions.
9. Essences.
10. Extracts.
11. Eye-Waters.
12. Fomentations.
13. Gargles.
14. Infusions.
15. Injections
16. Liniments.
17. Liquids.
18. Mixtures.
19. Mucilages.
20. Oils.
21. Ointments.
22. Pills.
23. Plasters.
24. Poultices.
25. Powders.
26. Salves.
27. Sinapisms.
28. Sirups.
29. Spirits.
30. Tinctures.
31. Troches.
32. Washes.
33. Waters.
34. Wines.
35. Antidotes.

PHARMACY.

(Formulæ.)

BALSAMS.

By balsams, is generally understood the concrete or inspissated juice of vegetables, such as balsam of fir, copaiba, &c. But we make use of the term here to designate certain artificial preparations, which, as regard qualities or consistence, resemble balsams.

1. PULMONARY BALSAM.

Take Spikenard-root *(Aralia racemosa)*	1 pound.
Horehound-tops *(Marrubium vulgare)*	1 pound.
Comfrey-root *(Symphytum officinalis)*	1 pound.
Wild-Cherry bark *(Prunus virginiana)*	1 pound.
Blood-root *(Sanguinaria canadensis)*	1 pound.
Elecampane-root *(Inula helenium)*	1 pound.

Add a suitable quantity of Water.

Boil, and pour off the infusion repeatedly, until the strength is all extracted; then strain, and reduce the liquid to twelve quarts or less; after which add of white sugar twelve pounds, and good honey twelve pounds: boil again down to three gallons. Let it stand twenty-four hours, in order that it may settle; add one quart of spirits, and finally bottle it for use.

Dose.—A wineglassful three or four times a day.

Use.—This preparation is highly useful in the treatment of pulmonary affections and coughs of long standing. It is admirably calculated to relieve that constricted state of the lungs which is often met with in consumption, and to assist expectoration. It does not increase the circulation, and is therefore safe in any stage of the above disease.

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2. BALSAM OF HONEY.

Take Balsam Tolu *(Balsamum tolutanum)*	2 ounces.
Balsam of Fir *(Pinus balsamea)*	2 ounces.
Opium *(Papaver somniferum)*	2 drams.

Dissolve all these in one quart of alcohol.

Dose.—A teaspoonful occasionally.

Use.—This preparation is also very useful in pulmonary diseases.

BITTERS.

By this class of medicines is understood certain liquids, as wine or spirits, impregnated with those vegetables which contain the greatest quantity of the bitter principle, such as gentian, centaury, aloes, &c. They are used to impart tone to the stomach.

1. WINE BITTERS.

Take Golden-seal *(Hydrastis canadensis)*	1 dram.
Whitewood-bark *(Liriodendron tulipifera)*	1 dram.
Bitter-root *(Apocynum androseamifolium)*	1 dram.
Cayenne Pepper *(Capsicum baccatum)*	½ dram.

Bruise all, and add two quarts of wine.

Dose.—From a tablespoonful to a wineglassful three times a day.

Use.—This forms a very useful tonic and pleasant bitter. It is administered in dyspepsia and other complaints, where tonics are indicated.

2. COMPOUND BITTERS.

Take	Tamarack-bark *(Pinus microcarpa)*	6 pounds.
	Prickly-Ash bark *(Xanthoxylum fraxineum)*	4 pounds.
	Wild-Cherry bark *(Prunus virginiana)*	3 pounds.
	Seneka Snake-root *(Polygala senega)*	3 pounds
	Tansy *(Tanacetum crispum)*	1 pound.
	Socotrine Aloes *(Aloe socotorina)*	½ pound.

Let these articles be pulverized and mixed; then take of the mixture one quarter of a pound, add three pints of boiling water, two quarts of Hollands gin, and one pint of molasses. Let it stand a week.

Dose.—Half a wineglassful, to be taken at morning, noon, and evening.

Use.—This preparation forms a most excellent tonic for dyspepsia, obstruction of the menses, and other diseases, where tonics are required.

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3. RESTORATIVE WINE BITTERS.

Take	Comfrey-root *(Symphytum officinalis)*	1 ounce.
	Solomon's Seal *(Convallaria multiflora)*	1 ounce.
	Spikenard-root *(Aralia racemosa)*	1 ounce.
	Columbo-root *(Cocculus palmatus)*	½ ounce.
	Gentian-root *(Gentiana lutea)*	½ ounce.
	Chamomile-flowers *(Anthemis nobilis)*	½ ounce.

Bruise all together, and then add four quarts of Malaga or other good wine. Let it stand one week, and strain.

Dose.—Half a wineglassful three or four times a day.

Use.—This is a very useful tonic in all cases of debility, particularly in female weakness, and is remarkably beneficial in dyspepsia, chorea, neuralgia, and all nervous disorders. It is likewise pectoral and corroborant; it is valuable in fluor albus and incipient consumption; indeed, it is seldom or never given without benefit.

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4. SPICE BITTERS.

Take	Poplar-bark *(Liriodendron tulipifera)*	10 pounds.
	Bayberry-bark *(Myrica cerifera)*	2 pounds.
	Balmony-bark *(Chelone glabra)*	2 pounds.
	Golden Seal *(Hydrastis canadensis)*	1 pound.
	Cloves *(Caryophillus aromaticus)*	1 pound.
	Cayenne Pepper *(Capsicum baccatum)*	½ pound.
	Loaf-Sugar	16 pounds.

Let these articles all be made fine and well mixed. Put a tablespoonful of this compound, with four ounces of sugar, into a quart of boiling water. Take a wineglassful of this three times a day before eating. This is a good bitter. Or a teaspoonful of these powders, with one of sugar, may be taken in a cup of hot water; or one ounce may be scalded in half a pint of hot water, and put into a quart bottle, which may be filled with good Malaga wine. Prepared in this way, it is an excellent bitter for weak patients.

THOMSON.

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5. WINE BITTERS.

1. Take	Balmony-bark *(Chelone glabra)*	1 part.
	Poplar bark *(Liriodendron tulipifera)*	5 parts.

Boil in water sufficient to strain from one pound two and a half gallons of water, to which add....... White Sugar.. 3½ pounds,

Nerve Powder	2½ ounces,

while hot. Strain, and add—

Best Malaga Wine	3½ gallons.
Tincture of Meadow-Fern *(Myrica gale)*	1 quart.
Prickly-Ash seeds *(Xanthoxylum fraxineum)*	1 quart.

2. Take Poplar-bark *(Liriodendron tulipifera)*	5 pounds.
Balmony-bark *(Chelone glabra)*	1 pound.

Boil them in fifteen gallons of water; then add, while hot—

Loaf-Sugar	20 pounds.
Nerve Powder	1 pound.

Strain off, and add—

Jamaica Rum or Brandy, fourth proof	4 gallons.
Malaga Wine	20 gallons.
Tincture of Meadow-Fern *(Myrica gale)*	1 gallon.
Tincture of Prickly-Ash bark *(Xanthoxylum fraxineum)*	1 gallon.

When cool, put it into a barrel, and it is fit for use. Dose, from half to a wineglassfu three times a day.

Thomson.

CAUSTICS.

Caustics and Escharotics are those substances which, when applied to fungous flesh or to the skin, disorganize the same. Their operation, however, differs very much, according to the agents employed—some acting very mildly, and others with great severity They are derived from both the mineral and the vegetable kingdom, but the latter are always to be preferred, when they answer the indication required.

1. VEGETABLE CAUSTIC.

Make a strong ley of hickory or oak ashes, put it into an iron kettle, and evaporate t the consistence of thin molasses; then remove into a sand-bath, and continue the evaporation to the consistence of honey. Keep it in a ground-stopped glass jar.

Use.—This caustic is very valuable in fistulas, cancers, scrofulous and indolent ulcers particularly where there are sinuses, necrosis, and in all cases where there is proud flesh and also to excite a healthy action of the parts. It removes fungous flesh without exciting inflammation, and acts but little except on spongy or soft flesh.

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2. LUNAR CAUSTIC.

This preparation is in some cases of great value, applied either in substance or solution

Use.—A piece is introduced into a quill, and the granulations occasionally touched with it; or the solution is applied, in the strength desired. Eighteen grains of the caustic added to one pint of soft water, and injected daily with a syringe, forms a very efficacious application in uterine discharges, gleet, &c. In some obstinate cases, this preparation seems to afford relief when all other means have proved unavailing.

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3. CAUSTIC POTASH.

This caustic, a little moistened, and applied to ulcers, slight tumors, &c., which may appear somewhat malignant, will, by decomposing the part affected, cure the complaint. The manner of making it renders it much more corrosive than the *Vegetable Caustic.*

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4. WOOD-SOOT.

This is said to be an excellent escharotic to remove fungous or proud flesh from ulcers and wounds, and may be substituted for burnt alum, being much better.

CORDIALS.

By this class of medicines we understand preparations containing the virtues of various vegetables, made in a similar manner to common cordials, chiefly with the view of rendering other medicines more pleasant in their exhibition. After a decoction of the articles composing it is sufficiently concentrated, it is made palatable with sugar and spirits.

1. RESTORATIVE CORDIAL.

Take Comfrey-root *(Symphytum officinalis)*	1 ounce.
Solomon's Seal *(Convallaria multiflora)*	1 ounce.
Spikenard-root *(Aralia racemosa)*	1 ounce.
Columbo-root *(Cocculus palmatus)*	½ ounce.
Gentian-root *(Gentiana lutea)*	½ ounce.
Chamomile-flowers *(Anthemis nobilis)*	½ ounce.

Bruise all together, and then add four quarts of the best Malaga wine. Let it stand a week, and strain.

Dose.—Half a wineglassful three or four times a day.

Use.—This is a very useful tonic in all cases of debility, especially of that kind peculiar to females. It is pectoral and corroborant, and is very valuable in fluor-albus, incipient consumption, dyspepsia, and in all cases of nervous derangement where a strong tonic is required. It is seldom or never given without benefit, and is superior to all other preparations of a similar character.

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2. ANTI-DYSENTERIC CORDIAL.

Take Birch-bark *(Betula lenta)*	2 pounds.
Bayberry-bark *(Myrica cerifera)*	1½ pounds.
Wild-Cherry bark *(Prunus virginiana)*	1 pound.
Peach-pits *(Amygdalus persica)*	1 pound.
Water	2 gallons.

Boil down to one and a half gallons, after which add half a gallon of good brandy, and loaf-sugar sufficient to make it palatable.

Dose.—A wineglassful three or four times a day.

Use.—This preparation forms a very excellent tonic and astringent for dysenteries and diarrhœas of long standing.

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3. NEUTRALIZING CORDIAL OR MIXTURE.

Take Turkey Rhubarb (*Rheum palmatum*), coarsely pulverized	1 ounce.
Peppermint-leaves (*Mentha piperita*), pulverized	½ ounce.
Sal-aëratus (*Potassæ bicarbonas*)	1 ounce.

Mix, put the materials in a stone jar, and add one pint of boiling water; let it stand till cold, and then add half a pint of best brandy and half a pound of loaf-sugar. Digest for a day or two, and strain through flannel. Bottle for use. In some cases, a little tincture of opium may be added to the powder before the water is poured on.

Dose.—For an adult, a tablespoonful every thirty minutes, or according to the symptoms; for a child a year old, two teaspoonfuls, every two hours.

Use.—This is an invaluable remedy in cholera-morbus, dysentery, and diarrhœa. It is administered in every stage of these diseases with the best effects. It is antacid, anti-dysenteric, and I may say anti-*choleraic*. This preparation has now become so generally known as scarcely to require further remark here. Nothing that I have ever seen can compare with it in cholera, dysentery, and other diseases of the bowels.

4. CHERRY CORDIAL.

Take Wild-Cherry, bark of the roots *(Prunus virginiana)*	4 ounces.
Poplar-bark *(Liriondendron tulipifera)*	4 ounces.

Make a strong tea, by moderate steeping; strain off, and add—

Loaf-Sugar	4 pounds.
Kernels of Peach-stones, finely pulverized	4 ounces.
Good Brandy	2 quarts.

Dose.—Half a wineglassful several times a day.

Use.—This is a most valuable astringent tonic, useful in all cases of obstinate diarrhœa and dysentery. It also combines the properties of a bitter, but the astringent by far predominates, and is so powerful as to need using with care. This cordial is a grateful and very valuable medicine. HOWARD.

DECOCTIONS.

DECOCTIONS are certain preparations of medicines and drinks, made by boiling substances in water for a considerable time. Where we wish to administer the virtues of any plant in a small volume, in the form of drink, decoctions are very useful. Some ingredients, however, lose a part of their efficacy by long boiling, and are given best in some other form. Vegetables designed for decoction should be cut into slices, or bruised into a coarse powder, that their strength may be more easily extracted.

Decoctions may be prepared from other roots or herbs in the same manner, and made agreeable to the taste with sugar if desired.

1. DIURETIC DECOCTION.

Take Queen of the Meadow *(Eupatorium purpureum)*	2 ounces.
Milkweed *(Asclepias syriaca)*	2 ounces.
Juniper-berries *(Juniperus communis)*	2 ounces.
Dwarf-Elder *(Aralia hispida)*	2 ounces.
Spearmint *(Mentha viridis)*	2 ounces.
Wild-Carrot seed *(Daucus carota)*	2 ounces.

Put all into a mortar, and bruise. Make a strong decoction.

Dose.—Half a pint, to be taken often through the day.

Use.—This decoction is strongly diuretic, and is very useful in gravel, dropsy, &c.

2. RHEUMATIC DECOCTION.

Take Virginia Snake-root *(Aristolochia serpentaria)*	1 dram.
White-Pine bark *(Pinus strobus)*	2 drams.
Burdock-seed *(Arctium lappa)*	2 drams.
Prickly-Ash bark *(Xanthoxylum fraxineum)*	2 ounces.
Poke-root *(Phytolacca decandria)*	2 drams.

Pulverize all together, and add half a gallon of water: boil down to three pints.

Dose.—Half a pint, two or three times a day.

Use.—This forms an excellent decoction in chronic rheumatism.

3. URINARY DECOCTION.

Take Marshmallows *(Althæa officinalis)*	3 ounces.
Queen of the Meadow *(Eupatorium purpureum)*	3 ounces.

Add four quarts of water, and boil it down to one: then add one ounce of gum-arabic, and half an ounce of pulverized nitre.

Dose.—A teacupful three or four times a day.

Use.—This is a valuable remedy in nephritis, or inflammation of the kidneys. It is likewise useful in the treatment of inflammation of the bladder; in hematuria, or bloody urine, and other urinary diseases. It is a demulcent diuretic.

4. DIAPHORETIC DECOCTION.

Take Pleurisy-root *(Asclepias tuberosa)*.......................... 2 ounces.

Boil it a few minutes in a quart of water, and then strain.

Dose.—A teacupful.

Use.—This decoction has been proved a highly-useful remedy in the treatment of pleurisy, and other forms of pneumonia, or inflammation of the lungs.

5. DECOCTION OF COHOSH.

Take Black Cohosh *(Macrotys racemosa)*.......................... 2 ounces.
Water.. 2 quarts.

Boil it down to three pints.

Dose.—From a wineglassful to a gill, sweetened, three or four times a day.

Use.—The foregoing preparation is an excellent article in treating uterine hemorrhage, fluor-albus, obstructed menstruation, coughs, and rheumatism.

6. SARSAPARILLA DECOCTION.

Take bruised Honduras Sarsaparilla *(Smilax sarsaparilla)*......... 2 ounces.
Boiling Water.. 1 quart.

Simmer until the strength is extracted, and then sweeten.

Dose.—A gill three or four times a day.

Use.—This is used as an alterative in all diseases and impurities of the blood, and is more to be depended upon than any of the sirups of this root so highly extolled.

7. DECOCTION OF PRINCE'S PINE.

Take Prince's Pine *(Chimaphila umbellata)*...................... 2 ounces.
Water.. 3 quarts.

Evaporate it to two quarts, and then strain.

Dose.—One or two wineglassfuls four or five times a day.

Use.—This is very useful to purify the blood; also in chronic mucous discharges from the bladder and urethra, and albuminaria. "I have," says Neligan, "administered a decoction of umbellata with excellent effects."

8. BALM-OF-GILEAD DECOCTION.

Take Balm-of-Gilead buds *(Populus balsamifera)*.............. 1 teaspoonful.
Rain-Water.. 1 pint.

Mix, and simmer down to half a pint.

Dose.—From half to one small teacupful when the cough is severe; occasionally drinking through the day of the following infusion:—

Leatherwood-bark *(Dirca palustris)*.......................... 1 ounce.
Pure Water.. 1 quart.

Mix and infuse.

Use.—An approved remedy in severe coughs, consumption, and all pulmonary complaints.

9. COMPOUND DECOCTION OF PIPSISSEWA.

Take Decoction of Prince's Pine *(Chimaphila umbellata)*	1 pint.
Solution of Carbonate of Potash *(Potassæ carbonas)*	2 drams.

Mix.

Dose.—Four tablespoonfuls three times a day.

Use.—This is a useful decoction in dropsy and chronic affections of the urinary organs.

◆

10. INDIAN-HEMP DECOCTION.

Take Indian-Hemp root *(Apocynum cannabinum)*	½ ounce.
Water	1½ pints.

Mix, simmer down to one pint, and strain.

Dose.—From one to two fluid ounces, two or three times a day.

Use.—This has been found useful in dropsy, acting as a hydragogue purgative.

◆

11. BURDOCK DECOCTION.

Take Burdock-root *(Arctium lappa)*	2 ounces.
Water	3 pints.

Mix, simmer down to two pints, and strain.

Dose.—A gill three or four times in the course of the day.

Use.—This is a valuable decoction, as an alterative and purifier of the blood.

◆

12. ROSE-WILLOW DECOCTION.

Take bruised Rose-Willow bark *(Cornus sericea)*	1 ounce.
Water	1 pint.

Simmer for half an hour, and strain.

Dose.—A wineglassful may be taken every hour.

Use.—This preparation is highly recommended in the apyrexia of intermittents.

◆

13. BONESET-DECOCTION.

Take Boneset *(Eupatorium perfoliatum)*	1 ounce.
Water	1½ pints.

Mix, simmer down to a pint, and strain.

Dose.—A wineglassful or more, three or four times a day.

Use.—This decoction operates as an emetic, diaphoretic, and aperient. It is a most excellent remedy for fevers and colds.

DROPS.

Drops include medicines which, from their strength or active properties, require to be given in very minute quantities; the dose being usually graduated by the number of drops to be administered. Great caution is necessary in giving this class of remedies, as mistakes are more liable to be made in this than in some other forms. Vials containing drops must always be kept corked, that the strength may not be increased by evaporation, or the virtues of them lost. They should be taken in a little sirup or sweetened water.

1. DIURETIC DROPS.

Take Sweet Spirits of Nitre *(Spiritus ætheris nitrici)*	2 ounces.
Balsam of Copaiba *(Copaifera officinalis)*	1 ounce.
Tincture of Gum-Kino *(Pterocarpus erinaceus)*	½ ounce.
Spirits of Turpentine *(Pinus palustris)*	1 ounce.

Mix these together, and add one scruple of camphor.

Dose.—A small teaspoonful, well shaken, given in mucilage of gum-arabic, three or four times a day.

Use.—These drops are successfully administered in cases of scalding of urine, whether arising from syphilitic or other complaints. In inflammation of the kidneys, fluor-albus, &c., they give prompt relief. They are superior to all other preparations for these uses, and particularly in gonorrhœa. A beautiful emulsion is made of these drops by adding the white of an egg, well beat up.

◆

2. BLACK DROP.

The "black drop" was originally prepared, upward of one hundred years since, by Edward Toustall, a practitioner of the Society of Friends, in England. The receipt passed into the hands of a relative, and was finally published:—

Take Opium *(Papaver somniferum)*	½ pound.
Vinegar	3 pints.
Nutmeg *(Myristica moschata)*	1½ ounces.
Saffron *(Crocus sativus)*	½ ounce.

Simmer a while, and then add a quarter of a pound of loaf-sugar, and two tablespoonfuls of yeast; set the whole in a warm place for four or five weeks: decant and bottle for use.

Dose.—From fifteen to fifty drops.

Use.—This is perhaps the best form in which opium can be administered as an anodyne. It is given in all cases when an anodyne is indicated.

◆

3. TAR-DROPS.

Take best Oil of Tar *(Pinus palustris.)*

Dose.—Give from four to ten drops, in a little milk, three or four times a day.

Use.—These drops form a good remedy for pain in the breast.

◆

4. WHITWITH'S DROPS.

Take Camphor *(Laurus camphora)*	1 dram.
Oil of Origanum *(Monarda punctata)*	6 drams.
Spirits of Turpentine *(Pinus palustris)*	½ dram.
Alcohol *(Spiritus rectificatus)*	1 pint.
Alkanet-root *(Anchusa tinctoria)*	2 drams.

Mix, and let it stand one week.

Dose.—Administered internally, twenty-five drops, mixed with wine or sweetened water.

Use.—This preparation is useful as a stimulant, and may be applied externally in chronic rheumatism and other painful affections.

◆

5. CARMINATIVE DROPS.

Take Angelica *(Angelica atropurpurea)*	4 ounces.
Lady's Slipper *(Cypropedium flavum)*	2 ounces.
Sweet-Flag *(Acorus calamus)*	½ ounce.
Anise *(Pimpinella anisum)*	1 ounce.
Dill *(Anethum graveolens)*	1 ounce.
Fennel-seed *(Anethum fœniculum)*	1 ounce.
Catnep flowers or leaves *(Nepeta cataria)*	2 ounces.
Motherwort *(Leonarus cardiaca)*	2 ounces.
Pleurisy-root *(Asclepias tuberosa)*	4 ounces.

Infuse the whole in two quarts of brandy or good common spirits, and digest with a moderate heat for twenty-four hours; then press out and strain the liquid, and add to it half a pound of loaf-sugar: when settled, bottle it for use. A fine preparation is made by add to this formula sufficient water to prevent empyreuma, and distil it from a common st

Dose.—For children, from ten to sixty drops, according to the age; for adults, fr one to four teaspoonfuls, in a cup of warm tea. It may be repeated once in four or six hou

Use.—This preparation eases pain, creates a moderate perspiration, and produ refreshing sleep; is good for restless children, removing flatulency and wind-colic, an useful in hysteric and nervous affections, female debility, &c.

◆

6. FEVER-DROPS.

Take expressed juice of Houseleek *(Sempervivum tectorum)*, strained	1 pint.
Loaf-Sugar	1 pound.

Simmer half an hour, to form a sirup.

Dose.—A tablespoonful every two hours, after proper evacuants have been taken.

Use.—This preparation has been employed for thirty years, and has never been kno to fail in relieving or curing a fever. In one case of inflammatory fever which had resist my usual prescriptions, these drops reduced it almost immediately.

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7. DR. LOBSTEIN'S COUGH-DROPS.

Take Gum-Guaiac *(Guaiacum officinale)*	1 dram.
Gum-Camphor *(Laurus camphora)*	1 scruple.
Castile Soap	12 grains.
Laudanum *(Tinctura opii)*	20 drops.
Alcohol *(Spiritus rectificatus)*	1 ounce.
Balsam of Peru *(Balsamum peruvianum)*	12 drops.

Mix all together.

Dose.—Fifteen drops three times a day, on a piece of white sugar.

Use.—Recommended in coughs and pain in the breast.

◆

8. DR. LOBSTEIN'S RHEUMATIC DROPS.

Take Gum-Guaiac *(Guaiacum officinale)*	1 dram.
Gum-Camphor *(Laurus camphora)*	½ dram.
Alcohol *(Spiritus rectificatus)*	1 ounce.
Laudanum *(Tinctura opii)*	1 scruple.

Mix these together, and let them macerate for twelve hours.

Dose.—From thirty to fifty drops three times a day, in a tablespoonful of molasses.

◆

9. CHOLERA-DROPS.

Take Tincture of Opium *(Papaver somniferum)*	1 ounce.
Tincture of Camphor *(Laurus camphora)*	1 ounce.
Essence of Peppermint *(Mentha piperita)*	1 ounce.
Tincture of Capsicum *(Capsicum baccatum)*	1 ounce.

Mix all these together.

Dose.—Half a teaspoonful, in a little sweetened water, to be repeated according to th urgency of the symptoms.

Use.—This is a very valuable medicine in cholera and many other painful affection It proved exceedingly serviceable in the cholera which recently prevailed in this city.

◆

10. NERVOUS DROPS.

Take Spirits of Hartshorn *(Spiritus ammoniæ)*.

Dose.—Ten drops, taken in a little water.

Use.—These drops are very valuable to administer in cases of fainting and hysteria.

◆

11. COUGH-DROPS.

Take Olive-Oil *(Olea europæa)*	1 pint.
Flaxseed, pulverized *(Lini usitatissimum)*	½ pint.
Molasses or Honey	1 pint.
Spirits of Turpentine *(Pinus palustris)*	1 ounce.
Balsam of Fir *(Pinus balsamea)*	1 ounce.
Extract of Licorice *(Glycyrrhiza glabra)*	½ ounce.

Mix, and simmer the whole together till well conglomerated.

Dose.—From ten to thirty drops, two or three times a day.

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12. DROPS FOR THE GLEET.

Take Tincture of Chloride of Iron *(Tinctura ferri chloridi)*	1 dram.
Sweet Spirits of Nitre *(Spiritus ætheris nitrici)*	3 drams.

Dose.—One teaspoonful three times a day.

◆

13. GOLDEN DROPS.

Take Chloride of Gold and Sodium	2 grains.
Distilled Water *(Aqua distillata)*	1 ounce.
Simple Sirup *(Syrupus simplex)*	2 drams.

Mix, and form a solution.

Dose.—Twelve drops three times a day.

Use.—As an alterative, for tubercles, and in syphilis. This is one of the best forms for administering the preparations of gold, as the dose can be apportioned with great accuracy.

NELIGAN.

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14. POTASH DROPS.

Take Liquor of Potash *(Liquor potassæ)*	5 drops.
Linseed-Tea *(Lini usitatissimum)*	1 gill.

Mix, and take at a draught. Gradually increase the dose one or two drops daily.

Use.—This has completely removed the gravel after several other remedies had failed.

ELECTUARIES.

ELECTUARIES are mixtures consisting of medicinal substances, especially dry powders, combined with sirup or honey, in order to render them less unpleasant to the taste, and more convenient for internal use. Their consistence should not be so soft, on the one hand, as to allow the ingredients to separate, nor so firm, on the other, as to prevent them from being swallowed without mastication. To prevent the hardening of electuaries, the French writers recommend the use of sirup prepared from brown sugar, which is less apt to crystallize than that made from the refined. Molasses would answer the same purpose, but its taste might be considered objectionable. Some persons employ honey, but this is not always acceptable to the stomach.

WOOD.

1. ELECTUARY OF SENNA (LENITIVE ELECTUARY).

Take Alexandria-Senna leaves *(Cassia acutifolia,* &c.)	8 ounces.
Figs *(Ficus carica)*	1 pound.
Tamarind-pulp *(Tamarindus indica)*, by macerating in water	q. s.

Pulp of Prunes *(Prunus juliana)*, obtained in same manner	q. s.
Coriander-seeds *(Coriandrum sativum)*	4 ounces.
Refined Sugar *(Saccharum alba)*	2½ pounds.

Powder the senna-leaves with the coriander-seeds, and separate by sifting ten ounces the mixed powder: simmer the remainder with the figs, in four pints, until it is reduc one half; then press out and strain the liquor; evaporate the liquor to half a pint, and ad the sugar to make a sirup; lastly, mix the pulp gradually with the sirup, and, havin added the sifted powder, mix the whole together.

Dose.—A piece of the size of a hickory-nut to be taken.

Use.—This electuary is used for costiveness. It is generally best to purchase already prepared: the English is very superior. It enters into the *Pile-Electuary.*

◆

2. PILE-ELECTUARY.

Take Cream of Tartar *(Potassæ bitartras)*	1 ounce.
Jalap *(Ipomea jalapa)*, pulverized	1 ounce.
Electuary of Senna *(Cassia acutifolia, &c.)*	2 ounces.
Cream of Sulphur *(Sulphur præcipitatum)*	½ ounce.
Nitrate of Potash *(Potassæ nitras)*	½ ounce.

Add sufficient molasses to make a pill or thick mass; roll into small cakes, quarter of inch square: dissolve one in water, and take every night. Or it may be formed into pil of the common size, and four taken night and morning.

Use.—This makes a very superior remedy for the blind and bleeding piles, and us ally excels all others: it corrects a faulty state of the biliary organs, which produc costiveness, and subsequently the piles. A Dr. Upham, of this city, advertises and sel this preparation very extensively.

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3. FOR UTERINE HEMORRHAGE.

When alum and other astringents have been employed without success, the followin formula has been used:—

Take Extract of Campeachy Logwood *(Hæmatoxylon campechianum)*	2 drams.
Salts of Tartar *(Potassæ carbonas purus)*	1 dram.
Confection of Red Roses *(Rosæ gallicæ)*	6 drams.

Form an electuary.

Dose.—Take a teaspoonful every hour. LOBSTEIN.

◆

4. FOR BLEEDING AT THE LUNGS.

Take Confection of Red Roses *(Rosæ gallicæ)*	4 ounces.
Powdered Nitrate of Potash *(Potassæ nitras)*	½ ounce.

Mix, and make an electuary.

Dose.—A teaspoonful may be taken every two hours. LOBSTEIN.

◆

5. FOR DROPSY.

Take pulverized Squills *(Scilla maritima)*	30 grains.
Acetate of Potash *(Potassæ acetas)*	½ ounce.
Oxymel of Squills *(Oxymel scillæ)*	2 drams.
Honey	½ ounce.
Oil of Juniper *(Juniperus communis)*	20 drops.

Make an electuary.

Dose.—The dose is a bit the size of a nutmeg, and may be repeated every six hours.

Use.—This is a good preparation in old dropsical cases. NELIGAN.

6. CONFECTION OF ROSES.

Take Red Roses, in powder *(Rosæ gallicæ)*	4 ounces.
Refined Sugar, in powder *(Saccharum alba)*	30 ounces.
Clarified Honey	6 ounces.
Rose-Water	8 fl. ounces.

Rub the roses with the rose-water at a boiling heat; then add gradually the sugar and honey, and beat them together until thoroughly mixed. U. S. PHARMACOPŒIA.

Take Red Roses, fresh *(Rosæ gallicæ)*	1 pound.
Refined Sugar *(Saccharum alba)*	3 pounds.

Beat the rose-petals in a marble mortar; then add the sugar, and beat again until they are incorporated. LONDON PH.

Use.—This confection is slightly astringent, but is almost exclusively used as a vehicle of other medicines, or to impart consistence to the pilular mass. The Edinburgh college employs it in most of their officinal pills.

EMULSIONS.

EMULSIONS are mixtures containing substances of an oleaginous or resinous nature suspended in aqueous fluids by the aid of gum, sirup, yolk of eggs, or any viscid matter. It is a mechanical compound, and the union of its ingredients is promoted and rendered more or less permanent by the addition of an alkali. Emulsions are made by triturating certain oleaginous seeds with water, or by mixing the oil procured from them with the necessary ingredients; and also from gum-resins in the same manner. Sometimes they are made with oils and an alkali. In making an emulsion of the oils or oleo-resins with mucilage, the former should be gradually added to the latter; by adding the mucilage to the oil, a good emulsion can not be formed. Mucilage is preferable to an alkali in making many emulsions, as those with castor-oil or copaiba: an alkali is preferable in forming an emulsion of almond or olive oil; but an emulsion formed with either of these agents alone will often separate, if the other be added. The presence of soluble salts in an emulsion is also apt to cause a separation of the oil. Much spirit will produce the same effect in emulsions made with mucilage, and an acid in those made with an alkali. Some substances can not be formed into good emulsions either with an alkali or with mucilage: this is the case with spermaceti and oil of turpentine, and also with our *Diuretic Drops*. In such cases, the yolk of an egg is the best agent for effecting the admixture, by rubbing down the ingredients in a mortar.

EMULSION OF TURPENTINE.

Take Spirits of Turpentine *(Pinus palustris)*	1 ounce.
Simple Sirup *(Syrupus simplex)*	½ ounce.
Mucilage of Gum-Arabic *(Acacia vera)*	½ ounce.
Pulverized do. do.	½ ounce.
White Sugar *(Saccharum alba)*	½ ounce.
Pure Water *(Aqua pura)*	1 ounce.

Mix, and rub the materials well together, to form an emulsion.

Dose.—Thirty drops three or four times a day.

Use.—Very valuable in febrile and urinary diseases. I have seen this alone remove a fever in twenty-four hours. Dr. Wood has employed it for twenty-four years, and has never known it to fail of producing great benefit in fevers, particularly where the intestines are inflamed. In swelling of the abdomen, inflammation of the intestines, and puerperal fever, a small teaspoonful may be added to our *Common Injection;* and also applied externally to the abdomen. It is also excellent for cramps and spasms.

ESSENCES.

Essences are made by adding alcohol to the essential oils, generally in the proportion of one ounce of oil to sixteen ounces of alcohol. They are applied externally to relieve pain, and are used with advantage internally for many complaints.

1. ESSENCE OF PEPPERMINT.

Take Oil of Peppermint (*Mentha piperita*)	1 ounce.
Alcohol (*Spiritus rectificatus*)	1 pint.—Mix.

Dose.—A teaspoonful.

Use.—This essence is useful in pain of the breast, cramp, sickness of the stomach, &c.

2. ESSENCE OF HEMLOCK.

This is made in the same manner from the oil of *Pinus canadensis.*

Dose.—Twenty-five or thirty drops, to be taken on sugar, or in tea.

Use.—Very valuable, applied externally, in inflammatory rheumatism, gout, and other affections; it is likewise excellent for sprains, &c.

3. ESSENCE OF SASSAFRAS.

Made in the same manner as the preceding, from the oil of *Laurus sassafras.*

Dose.—From one half to a teaspoonful.

Use.—It is useful in gout and rheumatism, pain in the breast, lumbago, sciatica, contusions, and as an outward application.

The other simple essences are made in the same manner as those already given, and their virtues are of the same character as the oils from which they are prepared.

4. COMPOUND ESSENCE OF VALERIAN.

Take Essence of Valerian (*Valeriana officinalis*)	1 ounce.
Essence of Castor (*Castoreum*)	1 ounce.

Dose.—A teaspoonful three times a day, for eight days; then a teaspoonful twice a day, for eight days; and afterward, continue with one teaspoonful a day.

Use.—This preparation is employed for epilepsy, fits, &c.

EXTRACTS.

The *Simple Extracts* are treated of under the head of Materia Medica, in another part of this volume (see page 411). The formulæ here inserted are mostly those where two or more materials are combined to form a *Compound Extract.*

1. DR. BONE'S EXTRACT OF POKE.

Take Expressed Juice of Poke (*Phytolacca decandria*)	½ gallon.
Gunpowder	1 gill.
Lard	½ pint.

Simmer to the consistence of honey or molasses.

Use.—This forms a very efficacious extract or plaster for scrofulous, cancerous, and indurated tumors. It may be rubbed upon the parts affected, or a plaster of it applied.

2. ALCOHOLIC EXTRACT OF MANDRAKE AND BLOOD-ROOT.

Take Saturated Tincture of Mandrake (*Podophyllum peltatum*)	1 pound.
Saturated Tincture of Blood-root (*Sanguinaria canadensis*)	3 ounces.

Mix, and evaporate in a water-bath (not to boil) until it is about the consistence of molasses; then add—

White Sugar, or lump pulverized *(Saccharum alba)*	1 pound.
Oil of Anise *(Pimpinella anisum)*	2 drams.

Incorporate the whole together, and spread it out to dry; then triturate in water until it is fit for use. It makes a beautiful red powder.

Dose.—For a male adult, fifteen grains; for a female, from ten to twelve grains. As an alterative, from one to two grains may be taken.

Use.—Excellent for liver-complaints, costiveness, and all impurities of the blood: it may be given in all diseases where mandrake or its resin *(podophylline)* is indicated.

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3. FLUID EXTRACT OF SENNA.

Take Alexandria Senna *(Cassia acutifolia, &c.)*	15 pounds.
Boiling Water	60 pounds.

Mix, and exhaust in a displacement apparatus; then concentrate this infusion *in vacuo* to 10 pounds. Now dissolve in this 6 pounds of molasses previously concentrated over a vapor-bath till nearly candied; add 24 fluid ounces of rectified spirit, and, if necessary, water sufficient to make the whole 15 pints. Every fluid ounce of this corresponds to one *avoirdupois* ounce of senna.

Dose.—Two fluid drams for an adult.

Use.—It is an excellent preparation, operating effectually, and seldom causing griping or any other annoyance.

◆

4. COMPOUND EXTRACT OF COLOCYNTH.

Take Colocynth pulp, cut small *(Cucumis colocynthis)*	6 ounces.
Purified Extract of Aloes *(Aloe socotorina)*	12 ounces.
Scammony, pulverized *(Convolvulus scammonia)*	4 ounces.
Cardamom-seed, pulverized *(Alpinia cardamomum)*	1 ounce.
Castile Soap	3 ounces.
Proof Spirit *(Spiritus tenuior)*	1 gallon.

Macerate the colocynth in the spirit for four days with a gentle heat, and express; add the aloes, scammony, and soap, to the strained liquor; then evaporate to a proper consistence, mixing the cardamom at the end of the process.

Dose.—From five to fifteen grains.

Use.—This is one of the most generally employed cathartics in use, and also one of the safest, if the materials of which it is composed be pure.

◆

5. ALCOHOLIC EXTRACT OF ACONITE.

Take Monkshood *(Aconitum napellus)*	1 pound.
Diluted Alcohol *(Spiritus tenuior)*	2 pints.

Make a tincture by displacement; distil off the alcohol, and evaporate.

Dose.—One sixth of a grain.

Use.—This extract may be given in all cases where aconite is indicated.

◆

6. ACETIC EXTRACT OF COLCHICUM.

Take fresh Colchicum-bulbs *(Colchicum autumnale)*	1 pound.
Acetic Acid *(Acidum aceticum)*	3 fluid ounces.

Bruise the bulbs, gradually adding the acid; then express, and evaporate in a porcelain vessel to a proper consistence.

Dose.—From one to two grains two or three times a day. This extract is now give in London in preference to all other preparations of colchicum.

7. ALCOHOLIC ETHEREAL EXTRACT OF CUBEBS.

Take powdered Cubebs *(Piper cubeba)*, as much as wished, and exhaust by ether by means of a displacement apparatus act on the residue with diluted alcohol *(Spiritu tenuior)*; distil the two tinctures separately. Evaporate the residue of the alcoholi tincture by means of a water-bath; add both together, and let the remaining ether evaporate spontaneously.

8. ACETIC EXTRACT OF LOBELIA.

Take Lobelia-seed, bruised *(Lobelia inflata)*	8 ounces.
Diluted Alcohol *(Spiritus tenuior)*	2 pints.
Vinegar	1 fluid ounce.

Macerate the seed in the alcohol, to which the vinegar has been added, for forty-eight hours; then displace until four pints of tincture are obtained, using diluted alcohol to expel the last portion, and then evaporate to the consistence of an extract.

Dose.—From one half to four fluid drams.

9. FLUID EXTRACT OF DANDELION.

Take Dandelion-root, fresh *(Leontodon taraxacum)*	32 ounces.

Slice it, and reduce to a pulp; mix this with one sixth its bulk of alcohol, macerate for twenty-four hours, and express strongly; add a pint of water containing a little alcohol, and again express; evaporate the mixed products to twelve fluid ounces, add four fluid ounces of alcohol, and filter.

A teaspoonful is equal to half a dram of the extract obtained from the expressed juice. It may be made from sixteen ounces of the dried root, reduced to a coarse powder, macerated in a quart of water mixed with half a pint of alcohol, for two days, and expressed.

Dose.—From half an ounce to an ounce.

Use.—This extract is useful in all cases where taraxacum is indicated.

10. FLUID EXTRACT OF HENBANE.

Take fresh Hyosciamus-leaves *(Hyosciamus niger)*, bruised, a sufficient quantity; express the juice with a powerful press; set it aside for twenty-four hours. Pour off the clear liquid, and strain the other through the flannel. Mix the strainings, and add one fifth part of alcohol. This is an excellent preparation of henbane, internally and externally.

Dose.—From twenty-five to thirty drops.

Use.—This preparation is peculiarly adapted to all diseases when opium disagrees, and is rather aperient. It is useful in bronchitis, and in diseases of the urinary organs.

Fluid extracts of any fresh plant may be made in the same manner as the above.

EYE-WATERS (COLLYRIUMS).

EYE-WATERS, or *Collyriums*, are prepared from either mineral or vegetable substances, and, being usually added to spirits or water, are applied to the eyes in the form of wash. They should first be applied very weak, and the strength gradually increased.

1. SPIRITUOUS EYE-WATER.

Take Brandy, fourth proof	½ pint.
Rain-Water	½ pint.
Camphor *(Laurus camphora)*	½ dram.—Mix.

Use.—This eye-water forms an excellent preparation, and is much employed in chronic ophthalmia, or inflammation of the eyes.

2. MUCILAGINOUS OR LAURUS EYE-WATER.

Take the pith of Sassafras-twigs *(Laurus sassafras)*................ 1 dram.

Add to it a suitable quantity of rose-water, which makes an excellent mucilaginous and cooling wash.

Use.—This collyrium will be found very beneficial in the treatment of ophthalmia, or inflammation of the eyes, during the acute stages.

3. VITRIOL EYE-WATER.

Take White Vitriol *(Zinci sulphas)*	1 dram.
Alum *(Alumen)*	1 dram.
Common Table-Salt, fine	3 drams.
Water	1 pound.

Boil the water for a quarter of an hour; then put the two salts in a new earthern pot, and pour the boiling water over it; let it simmer for fifteen minutes: when cold, strain through filtering-paper.

Use.—This is a good wash for inflammations of the eye.

4. GOLDEN EYE-WATER.

Take Chloride of Gold *(Auri chloridum)*	2 grains.
Distilled Water *(Aqua distillata)*	6 fl. ounces.

Mix and dissolve.

Use.—As a collyrium in ophthalmia.

FOMENTATIONS.

FOMENTATIONS may be regarded as a species of local bathing. Although the decoctions usually employed are useful in aiding warmth, by their soothing or sedative influence, yet they are secondary objects in the application of fomentations, the intention being to convey heat, combined with moisture, to the part fomented. Flannel cloths, wrung out of boiling water, by means of two sticks turned in opposite directions, form the best fomentations. If they be shaken up, and laid lightly over the part, they involve a considerable quantity of air, which, being a bad conductor, retains the heat in them for a considerable time. In every process of fomenting, there should be two flannels, each three yards long, with the ends sewed together, to admit of the boiling water being wrung out of them; and the one flannel should be in readiness while the other is applied. The fineness or the coarseness of the flannel is not a matter of indifference: the coarser it is, the less readily does it conduct heat, and the longer it retains its warmth; therefore, it is more efficient for fomenting. White flannel also retains heat longer than colored.—GRIFFITH.

Fomentations are usually composed of several kinds of bitter herbs, and are very useful to relieve pain and inflammation, by taking off tension and spasm; or to brace and restore the tone and vigor of those parts to which they are applied. The first of these intentions may generally be answered by warm fomentations, and the second by those that are cold. They should often be renewed. This class of remedies is very valuable in a great many complaints.

1. HOP-FOMENTATION.

Take two handfuls of hops *(Humulus lupulus)*, and add equal parts of water and vinegar. Make a strong decoction.

Use.—In cases of sore throat, hoarseness, or soreness of the breast, severe pain in th abdomen, colic, dysentery, &c., this fomentation will give ease and allay irritation. I may be applied at bedtime, and kept on all night, or any time in the day, if necessary But it is usually best to apply warm, and often renew it.

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2. BITTER-HERB FOMENTATION.

Take Hops *(Humulus lupulus)*	3 ounces.
Double Tansy *(Tanacetum crispum)*	3 ounces.
Wormwood *(Artemisia vulgare)*	3 ounces.
Horehound *(Marrubium vulgare)*	3 ounces.
Catnep *(Nepeta cataria)*	3 ounces.

Make of these articles a strong decoction, by boiling in equal parts of vinegar and water

Use.—This will be found very efficacious in relieving pain, and reducing inflamma tion, resulting from contusions, sprains, dislocations, and other causes. It may also b usefully employed in inflammation of the bowels; in short, this forms a very beneficia application in almost every species of inflammation.

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3. STIMULATING FOMENTATION.

Take Red Pepper *(Capsicum annuum)*	2 ounces.
Mustard-seed, bruised *(Sinapis alba)*	2 ounces
Alcohol *(Spiritus rectificatus)*	2 quarts.

Simmer these together for a few minutes.

Use.—This is employed as an external application in cholera, paralysis, or palsy.

◆

4. POPPY-FOMENTATION.

Take white-poppy heads *(Papaver somniferum)*, or the flowers, a suitable quantity; add equal quantities of vinegar and water: simmer for a few minutes.

Use.—This forms an excellent anodyne fomentation applied to painful affections.

◆

5. OPHTHALMIC FOMENTATION.

Take white-poppy heads *(Papaver somniferum)*, or henbane-leaves *(Hyosciamu niger)*, and simmer them in water and spirits.

Use.—In severe acute ophthalmia, or inflammation of the eyes, this fomentation i sometimes employed with excellent effect.

GARGLES.

GARGLES are very useful in many complaints, particularly in aphthæ, quinsy, fevers, &c. By this class of remedies we understand certain infusions, decoctions, or other liquids, designed for washing the mouth and throat, which, by their stimulating or detergent properties, become efficacious. Adults can generally gargle their mouth or throat with little difficulty; but infants and children require an assistant to apply them, which is best done by tying a small piece of linen to a probe or stick, dipping it in the liquid, and often applying it. They should never be made very stimulating, except in severe cases.

1. STIMULATING GARGLE.

Take Sumach-berries *(Rhus glabra)*	q. s.
Golden Seal *(Hydrastis canadensis)*	q. s.

Make a strong decoction, strain, and add one dram of pulverized alum to every pint.

Use.—This gargle may be employed in ulcerated sore throat of long standing.

2. ASTRINGENT GARGLE.

Take black cohosh (*Macrotys racemosa*), a sufficient quantity, and make a strong decoction.

Use.—This forms a gargle which is much used in quinsy and sore throat.

◆

3. ANTIPHLOGISTIC GARGLE.

Take Sage (*Salvia officinalis*)	1 ounce.
Hyssop (*Hyssopus officinalis*)	1 ounce.

Pour on one quart of boiling water, and let it stand half an hour; then strain, and add one dram of fine borax (*Sodæ boras*).

Use.—This gargle is usefully employed in aphthæ, and likewise in quinsy or sore throat, particularly where there is acute inflammation.

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4. YEAST-GARGLE.

Take Yeast	1 wineglassful.
Milk	1 gill.

Use.—This, sweetened with molasses, forms an excellent gargle for sore throat.

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5. GARGLE FOR PUTRID SORE THROAT.

Take Upland-Sumach bark (*Rhus glabra*)	4 ounces.
High Blackberry (*Rubus villosus*)	4 ounces.
Common White-Elm bark (*Ulmus fulva*)	4 ounces.
White-Oak bark (*Quercus alba*)	4 ounces.
Virginia Snake-root (*Aristolochia serpentaria*)	2 ounces.
Nanny-berry bark (*Viburnum lentago*)	4 ounces.

Make a strong decoction, add a piece of alum, and sweeten well with honey; then bottle for use. Apply often to the sores with a rag: it may at first irritate a little, but afterward effects a cure. This preparation proved a sovereign remedy during the revolutionary war, when all other means failed, and many had previously died.

◆

6. PEPPER-GARGLE.

Take Cayenne Pepper, pulverized (*Capsicum baccatum*)	2 tablespoonfuls.
Common Salt	1 teaspoonful.
Boiling Vinegar	½ pint.
Boiling Water	½ pint.

Mix, infuse, and strain.

Use.—This gargle is employed in bad cases of scarlatina.

INFUSIONS.

INFUSIONS (or, as they are usually denominated, TEAS) form a very common and good method of administering the virtues of various medicinal agents. It is probably the most natural, if not ancient, mode of preparing medicine. A twofold benefit is derived from infusions: first, the medicinal properties of the article made use of; second, the heat and diluent properties of the water. An excellent method to make infusions is, to put the plant or root into a teapot, pour on boiling water, and let it stand a short time by the side of the fire: in this way the infusion is readily made very clear.

"When it is an object to retain the heat as long as possible, polished metallic vessels, provided they are not acted upon by the infusion, are to be preferred, as, from their inferior radiating powers, they retain heat better than earthenware. Infusions are mo made for extemporaneous use, as they are exceedingly liable to decomposition, and c sequently can not be kept for any considerable period without spoiling. They may, h ever, be preserved for some time by pouring them, while hot, into bottles, so as t them, and forcing in stout corks. If the operation be properly performed, so as to fectly exclude the air, the infusion will keep for some months. An infusion made cold water, by the process of displacement, has less tendency to spoil than one mad the usual manner with hot water." GRIFFIT

1. INFUSION OF LINSEED.

Take Flaxseed, in meal *(Lini usitatissimum)*	1 ounce.
Boiling Water	2 pints.

Macerate for four hours, near the fire, in a vessel lightly closed, and then strain.

Use.—This forms a good demulcent, which is often employed with advantage in orrhœa, dysuria, and sometimes in catarrh and cough.

◆

2. INFUSION OF BONESET.

Take Boneset *(Eupatorium perfoliatum)*	1 ounce.
Boiling Water	1 pint.

Infuse two hours in a covered vessel, and strain.

Use.—This infusion is very beneficial in colds, fevers, coughs, &c.; to be drank fre Taken cold, it is likewise an excellent remedy for dyspepsia.

◆

3. BALM-TEA.

Take Balm-leaves *(Melissa officinalis)*	1 ounce.
White Sugar *(Saccharum alba)*	1 spoonful.
Boiling Water	1 pint.
Lemon-juice	1 ounce.

Infuse fifteen minutes, closely covered, and strain.

Use.—This forms a good drink, when cold, for a fever.

◆

4. INFUSIONS OF ELDER.

Take White-Elder flowers *(Sambucus canadensis)*	1 dram.
Boiling Water	½ pint.
Honey	1 tablespoonful.

Dose.—One tablespoonful, every half hour, till it operates.

Use.—This will prove a gentle purgative for young children.

Take Elder-berries, dried *(Sambucus canadensis)*	2 tablespoonfuls.
Boiling Water	1 pint.
Molasses or Sugar	1 tablespoonful.

Use.—This infusion will operate similar to the preceding, in the same doses. I useful in cases of erysipelas, if drank freely for some time.

◆

5. ELECAMPANE-TEA.

Take Elecampane-root, cut fine *(Inula helenium)*	1 ounce.
Boiling Water	1 pint.
Honey	2 tablespoonfuls.

Infuse twenty minutes, and strain.

Dose.—One teacupful every two hours, for adults.

Use.—This tea is somewhat glutinous, and of an aromatic bitter. It is employed a stomachic and pectoral in cases of coughs, asthmas, catarrhs, &c.

6. SWEET-FENNEL SEED TEA.

Take Sweet-Fennel seeds, pulverized *(Anethum fœniculum)*	1 dram.
Boiling Water	1 pint.
White Sugar *(Saccharum alba)*	1 tablespoonful.

Infuse for twenty-five minutes, closely covered, and strain.

Use.—This tea has an agreeable flavor, and a moderately pungent and aromatic taste. It is carminative, resolvent, and diuretic. It has been used to much advantage in cases of colics, malignant fevers, headaches, indigestion, &c.

◆

7. SWEET-FLAG ROOT TEA.

Take Sweet-Flag root, pulverized *(Acorus calamus)*	2 drams.
Boiling Water	1 pint.
Honey	1 tablespoonful.

Infuse for twenty-five minutes, and strain.

Use.—This tea is reputed to be an antiseptic, and has been employed to prevent contagion. A little alkali will add much to its medicinal virtues. It is beneficial in colic, pain in the breast, and flatulence.

◆

8. HYSSOP-TEA.

Take Hyssop *(Hyssopus officinalis)*	½ ounce.
Boiling Water	½ pint.
Honey	1 tablespoonful.

Infuse for thirty minutes, closely covered, and strain.

Dose.—The dose for an adult is one teacupful, as often as occasion may require; for children, in proportion to the age.

Use.—Hyssop-tea has an aromatic and pungent taste, and is particularly recommended in asthma and other disorders of the breast and lungs, being good to promote expectoration.

◆

9. CATNEP-TEA.

Take Catnep leaves and flowers *(Nepeta cataria)*	1 ounce.
Boiling Water	1 pint.
White Sugar *(Saccharum alba)*	½ ounce.
Milk	1 tablespoonful.

Infuse for twenty-five minutes, and strain.

Dose.—The dose for a child one year old is a tablespoonful, when occasion may require. A little gin is sometimes added.

Use.—This is an excellent tea for infants. It removes irritation, griping pains, and flatulence, which frequently occur with small children.

◆

10. SPEARMINT-TEA.

Take Spearmint *(Mentha viridis)*	½ ounce.
Boiling Water	1 pint.

Infuse for fifteen minutes, and strain.

Dose.—One tablespoonful, every two hours, for a child about one year old.

Use.—This tea is a warm stomachic, useful in relieving nausea and retching; it is also strongly diuretic, and diminishes fever and inflammation, by promoting a discharge of urine. It is an excellent agent to check a tendency to nausea of the stomach, and to prevent an excess of vomiting, under the administration of powerful emetics.

This herb has sometimes been employed as a vermifuge, but we are not aware that it possesses anthelmintic properties.

11. TANSY-TEA.

Take Tansy-leaves *(Tanacetum crispum)*	1 ounce.
Boiling Water	1 pint.
White Sugar *(Saccharum alba)*	1 tablespoonful.

Infuse for twenty-five minutes, and strain.

Dose.—The dose of this is the same as that of spearmint-tea.

Use.—The infusion of tansy is a warm, deobstruent bitter, and is very useful for ch dren, to destroy worms in the bowels. It also promotes menstruation.

◆

12. PENNYROYAL-TEA.

Take Pennyroyal-leaves, dried *(Hedoma pulegioides)*	1 ounce.
Boiling Water	1 pint.

Infuse for twenty-five minutes in a covered vessel, and strain.

Dose.—One teacupful for an adult.

Use.—This is a warm, pungent, aromatic tea, similar to mint, but more acrid, an less agreeable. It is an aperient, and is employed in hysteric cases. To be taken freel in a warm state at bedtime (the feet being previously bathed in hot water), in ameno rhœa, and to promote perspiration. Taken in a tepid state, it warms the stomach, an assists the operation of emetics; also excellent in stranguary, suppression of urine, an in gravel.

◆

13. SASSAFRAS-TEA.

Take Sassafras-root bark, made fine *(Laurus sassafras)*	1 ounce.
Boiling Water	1 pint.

Infuse for thirty minutes, and strain.

Dose.—The infusion may be taken in doses of from one to three tablespoonfuls ever two or three hours, with a little sugar to make it more agreeable.

Use.—This is a warm aperient and corroborant. It is frequently employed with goo success for purifying the blood, and in rheumatism, &c.

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14. INFUSION OF VIRGINIA SNAKE-ROOT.

Take Virginia Snake-root *(Aristolochia serpentaria)*	1 ounce.
Boiling Water	1 pint.

Infuse for two hours in a covered vessel, and strain.

Use.—This forms an excellent tonic for convalescent patients. It is also very usefu in febrile diseases, particularly when there is little or no remission.

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15. INFUSION OF SLIPPERY ELM.

Take Slippery-Elm bark, sliced *(Ulmus fulva)*	1 dram.
Boiling Water	1 quart.

Infuse for one hour in a covered vessel, and strain.

Use.—It is useful in gastro-enteritis, dysentery, diarrhœa, and bowel-complaints generally; also in inflamation of the eyes, stomach, bowels, &c. It may be drank freely.

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16. ANTHELMINTIC INFUSION, OR WORM-SIRUP.

Take Alexandria Senna *(Cassia acutifolia, &c.)*	2 ounces.
Male Fern *(Aspidium Filix-mas)*	1 ounce.
Carolina Pink *(Spigelia marilandica)*	2 ounces.
Peach-leaves *(Amygdalus americana)*	1 ounce.

Reduce these to a coarse powder, and add one pint of distilled or pure soft water, and one pint of alcohol. Let it stand closely stopped in a glass jar for two weeks; then submit the whole to a gentle heat in a water-bath, unstopped, for six hours; then decant, add one pint of distilled or pure soft water, and half a pound of loaf-sugar. Evaporate to one quart.

Dose.—For a child from four to six years old, one teaspoonful four or five times a day; in proportionate doses for older or younger children. It may be administered in a little sage-tea, with milk and loaf-sugar added.

Use.—This preparation for expelling various kinds of worms is the safest and the most effectual of any with which we are acquainted. It is our old *Anthelmintic Infusion*, with the addition of two articles by Dr. W. Elmer, of Utica.

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17. COMPOUND INFUSION OF SENNA.

Take Alexandria Senna *(Cassia acutifolia, &c.)*	½ ounce.
Manna *(Fraxinus ornus)*	½ ounce.
Cream of Tartar *(Potassæ bitartras)*	½ ounce.
Fennel-seed, bruised *(Anethum fœniculum)*	1 teaspoonful.

Add one pint of boiling water to the senna and manna; when cold, strain, add the cream of tartar, and sweeten.

Dose.—A wineglassful may be taken every hour, until it purges.

Use.—This forms a cleansing and cooling purgative; it is useful in fevers and inflammatory diseases, and is one of the best cathartics I know of.

◆

18. INFUSION OF CAYENNE.

Take Bird-Pepper, powdered *(Capsicum baccatum)*	1 teaspoonful.
White Sugar *(Saccharum alba)*	2 teaspoonfuls.
Boiling Water	1 pint.—Mix.

Make an infusion, and drink it as hot as possible.

Use.—This is useful in colic, pain in the breast, cholera, &c.

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19. COMPOUND INFUSION OF BURDOCK.

Take Burdock-seed *(Arctium lappa)*	1 ounce.
Wild Carrot, bruised *(Daucus carota)*	1 ounce.
Boiling Water	1 quart.

Dose.—When cold, sweeten with honey, and take a gill morning, noon, evening, and at bedtime.

Use.—The infusion of burdock forms a very efficient remedy in gravel.

◆

20. INFUSION OF PARSLEY-PIERT.

Take Parsley-piert or Breakstone leaves *(Aphanes arvensis)*	1 ounce,
Boiling Water	1 pint.

When cold, sweeten and drink freely.

Use.—This infusion constitutes a very superior medicine for the gravel; it has cured several extraordinary cases where all other means had failed.

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21. COMPOUND INFUSION OF PERUVIAN BARK.

Take Peruvian Bark, powdered *(Cinchona officinalis)*	1 ounce.
Aromatic Sulphuric Acid *(Acidum sulphuricum aromaticum)*	1 fl. dram.
Water	1 pint.

Macerate for twelve hours, and strain. The yellow or best red bark should be selected when a strong preparation is desired.

Dose.—The medium dose of the infusion is two fluid ounces, which is equivalent to one dram of the bark.

Use.—This is an elegant and very efficacious preparation in intermittent fevers. The addition of the acid insures the solution of all or nearly all the active matter. "I have," says a practitioner, "been long in the habit of using this infusion, and have had great reason to be satisfied with its efficacy."

Aromatic sulphuric acid is made as follows: Take sulphuric acid, three and a half fluid ounces; ginger, bruised, one ounce; cinnamon, bruised, one and a half ounces; alcohol, one quart. Add the acid gradually to the alcohol, and digest in a closed vessel for three days; mix the powders, and macerate for one week: filter through paper.

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22. INFUSION OF FOXGLOVE.

Take Foxglove-leaves (*Digitalis purpurea*)	1 dram.
Boiling Water	½ pint.
Tincture of Cinnamon (*Laurus cinnamomum*)	1 fl. ounce.

Macerate the foxglove with the water in a covered vessel for four hours; then strain, and add the tincture.

Dose.—Half a fluid ounce twice a day, until the system becomes affected.

Use.—An excellent preparation for dropsy in the chest, palpitation of the heart, &c.

◆

23. INFUSION OF HENBANE.

Take Henbane-leaves (*Hyosciamus niger*)	½ ounce.
Boiling Water	1 pint.

Evaporate one half. Enclose all in muslin, and apply.

Use.—This makes a good application to painful ulcers, inflamed eyes, &c.

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24. INFUSION OF LOBELIA.

Take Lobelia (*Lobelia inflata*)	1 ounce.
Boiling Water	1 pint.

Mix, and make an infusion.

Dose.—A fluid ounce may be taken every half hour, until vomiting ensues.

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25. INFUSION OF CHAMOMILE.

Take Chamomile-flowers (*Anthemis nobilis*)	½ ounce.
Boiling Water	1 pint.

Mix and macerate for ten minutes in a covered vessel, and strain.

Dose.—One or two fluid ounces several times a day, to be taken cold.

Use.—This infusion forms a good tonic. As an aid to the operation of emetics, it should be administered in a tepid state, and drank freely.

INJECTIONS (ENEMAS, OR CLYSTERS).

INJECTIONS, or *clysters*, are certain liquids thrown into the rectum by artificial means. Their operation depends upon the ingredients employed. Some are emollient, others are stimulant, anodyne, purgative, anti-spasmodic, &c. Those generally used by practitioners are composed of starch; and so inefficiently are they employed in this country, that little or no benefit is derived from them. A bladder and pipe is commonly used to administer injections, but the liquid can not be effectually introduced by this instrument. A large syringe should always be used for adults, and a small one for infants and children. This enables the practitioner or nurse (one of whom should always perform this simple but important operation) to throw up the injection to such an extent as will render it efficacious. To prove effectual, a large quantity of liquid must be employed. Few are aware of the great benefit to be derived from the employment of injections. They often prove a sovereign remedy for diseases which nothing else will relieve: hence, every family should possess a syringe, and a knowledge of its use. Sometimes the stomach is in such a state, that medicine can not be given to act upon the bowels. In this case, the enema is very useful; also in strangulated or incarcerated hernia, or rupture, and in bilious colic, dysentery, cholera-morbus, and bowel-complaints generally.

1. COMMON INJECTION.

Take Sweet Milk	1 pint.
Mucilage of Slippery-Elm *(Ulmus fulva)*	1 pint
Olive-Oil *(Olea europœa)*	1 gill.
Molasses	½ pint.
Common Salt	1 ounce.—Mix.

Use.—This forms an injection of much value, and may be employed in almost every case where one is indicated. It is frequently used with admirable effects in dysentery, cholera, and diarrhœa. Sometimes when there is great pain in the lower intestines, it will have a better effect if a dram of laudanum is added to each injection, and it will not fail of relieving the griping pain occasioned by the disease. The administration should be made with a large-sized French syringe.

◆

2. STIMULATING INJECTION.

Take Lobelia *(Lobelia inflata)*	1 dram.
Red Pepper *(Capsicum annuum)*	½ dram.

Make an infusion, sweeten, and introduce from half a pint to a pint.

Use.—This injection is occasionally employed in very obstinate cases of costiveness, bilious and painters' colic, strangulated or incarcerated hernia, and similar affections.

◆

3. TOBACCO-INJECTION.

Take Tobacco *(Nicotiana tabacum)*	1 dram.
Tepid Water	1 pint.

Infuse for twenty or thirty minutes.

Use.—This injection is occasionally used in the treatment of incarcerated hernia, on account of its relaxing properties, and in suppression of urine. It should, however, be employed with caution, as it has sometimes produced alarming symptoms. It is also used to destroy worms in the rectum. Lobelia, in general, is a good substitute.

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4. ANTHELMINTIC CLYSTER.

Take Aloes, powdered *(Aloe socotorina)*	1 dram.
Barley-Water	1 pint.

Mix, and administer.

Use.—This forms a very effectual remedy against ascarides in the rectum.

◆

5. COMPOUND ALUM-INJECTION.

Take Stramonium-leaves *(Datura stramonium)*	½ ounce.
Boiling Water	1 quart.

Infuse for half an hour, strain, and add from two drams to an ounce of alum.

Use.—In cancerous affections of the uterus.

LINIMENTS.

Liniments are preparations employed in frictions or embrocations on the skin. They are usually composed of oily, spirituous, and gummy or saponaceous substances — as some of the essential oils, alcohol, soap, camphor, &c. Liniments are used externally for rheumatism, quinsy, and other painful affections. The benefit is derived from their counter-irritant effects.

"They are generally aided by friction of the part to which they are applied, either with the hand alone, or with articles capable of exciting some irritation of the skin, as a piece of flannel or a soft flesh-brush. In many cases, in which liniments are found beneficial, the advantage obtained from them is attributable rather to the friction than to any medicinal power in the lotion itself." GRIFFITH.

1. COMMON LINIMENT.

Take Castile Soap	1 ounce.
Oil of Sassafras *(Laurus sassafras)*	1 ounce.
Camphor *(Laurus camphora)*	1 ounce.
Spirits of Hartshorn *(Cornu cervi elaphi)*	1 ounce.
Alcohol *(Spiritus rectificatus)*	1 ounce. — Mix.

Use. — This forms an excellent liniment in diseases of the throat and tonsils.

◆

2. OPIUM AND CAMPHOR LINIMENT.

Take Opium, powdered *(Papaver somniferum)*	1 dram.
Gum-Camphor *(Laurus camphora)*	1 dram.
Castile Soap, scraped fine	1 dram.
Alcohol *(Spiritus rectificatus)*	1 ounce.

Rub them all together in a mortar, until the camphor, soap, and opium, are dissolved, and they form a liniment.

Use. — This preparation is a valuable external stimulant and rubefacient, and is an efficacious remedy for inflammatory sore throats and stiff necks. It should be applied with a flannel every two hours, and rubbed in by friction. In some cases it is necessary to dry it in by applying a hot iron or brick over the flannel cloth.

◆

3. IRRITATING LINIMENT.

Take Spirits of Turpentine *(Pinus palustris)*	1 ounce.
Croton-Oil *(Croton tiglium)*	½ ounce.
Olive-Oil *(Olea europæa)*	1 ounce.

Add a little origanum or sassafras oil, and mix.

Use. — One of the best counter-irritants for chronic and deep-seated pains. Rubbed in daily, it produces copious eruptions. It is good in bronchitis.

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4. HEMLOCK-LINIMENT.

Take Oil of Hemlock *(Pinus canadensis)*	1 ounce.
Gum-Camphor *(Laurus camphora)*	½ ounce.
Gum-Opium *(Papaver somniferum)*	½ ounce.
Alcohol *(Spiritus rectificatus)*	1 quart. — Mix.

Use. — This forms an extraordinary combination for all cases of pain, particularly of an inflammatory character, where heating liniments prove too stimulating. I have scarcely ever found it to fail of affording immediate relief in inflammatory rheumatism, gout, quinsy, white swelling, inflamed breasts, &c. Apply frequently.

5. RHEUMATIC LINIMENT.

Take Sassafras-Oil (*Laurus sassafras*)	2 ounces.
Hemlock-Oil (*Pinus canadensis*)	1 ounce.
Red-Cedar Oil (*Juniperus virginiana*)	1 ounce.
Oil of Turpentine (*Pinus palustris*)	1 ounce.
Gum-Camphor (*Laurus camphora*)	1 ounce.
Capsicum, pulverized (*Capsicum baccatum*)	1 ounce.
Alcohol (*Spiritus rectificatus*)	4 quarts.

Mix, and put all into a jug; keep it warm for five or six days, frequently shaking it until dissolved; then strain.

Use.—This liniment is excellent for rheumatism, neuralgia, sprains, and other painful affections. The parts affected should be often bathed with it, and well rubbed with the hand. It is an exceedingly valuable preparation, seldom or never disappointing the practitioner in relieving pain.

6. HENBANE-LINIMENT.

Take Extract of Henbane (*Hyosciamus niger*)	½ dram.
White Soap	2 drams.
Linseed-Oil (*Lini usitatissimum*)	6 ounces.

Mix, and form a liniment.

Use.—This is applied as an embrocation to white and glandular swellings.

LIQUIDS.

Liquids include such medicines as are made from various menstruums or solvents, such as spirits, wine, water, &c. They are usually compound preparations.

1. RHEUMATIC COMPOUND.

Take White Turpentine (*Pinus palustris*)	4 ounces.
Poke-berries (*Phytolacca decandria*)	4 ounces.
Malaga Wine, or Metheglin	2 gallons.

Let these articles be mixed, and stand one week; then filter, and bottle for use.

Dose.—Half a wineglassful three times a day.

Use.—This liquid forms an excellent preparation for chronic rheumatism.

2. ANTI-PYROSIS LIQUID.

Take Compound Tincture of Senna (*Elixir salutis*)	1 pound.
Tincture of Balsam Tolu (*Balsamum tolutanum*)	1 ounce.—Mix.

Dose.—A tablespoonful every morning or evening.

Use.—This will be found efficacious in removing the troublesome symptoms of water-brash. It may be taken, mixed in sweetened water, every night on going to bed.

3. STIMULATING LIQUID.

Take Cayenne Pepper (*Capsicum baccatum*)	1 ounce.
Common Spirits or Brandy	2 quarts.

Let it stand for a few days.

Dose.—A small teaspoonful in sweetened water.

Use.—This liquid is used internally for pain, and externally in rheumatism, paralysis, soreness of the flesh, ague in the face and breast, pain of the breast, and indeed of every other organ. It is quite equal, if not superior, to the No. 6 of Thomson.

4. LIQUOR TARAXACI.

A very elegant preparation has been introduced under the above name, which, from its strong flavor of the recent root, is much employed by those who have confidence in the remedial power of dandelion. The following is the formula for preparing it:—

Take Dandelion-roots, dried and sliced *(Leontodon taraxacum)*.... 18 ounces.
Pure Water *(Aqua pura)*.............................. q. s.

Infuse for twenty-four hours; press and set aside, that the fecula may subside. Now cover the roots with proof spirits for one day, and strain: this is to be added to the liquid when finished. Decant and heat the decoction to 180° Fahr., so as to coagulate the albumen; filter the liquid while hot, and evaporate in a drying-room, or by means of a current of warm air (a water or steam bath will not succeed so well), until the product shall weigh fourteen ounces: then add the spirit or tincture. The roots should be perfectly cleansed. If properly prepared, liquor taraxaci resembles brown sherry in color, and possesses the acid taste of the fresh root in an eminent degree.

Dose.—The dose may be from one to three fluid drams.

Use.—This valuable preparation is fully treated of under the head of EXTRACTS (see page 411), and is considered superior to any other.

◆

5. BELLADONNA-LIQUOR.

Take fresh Belladonna-leaves *(Atropa belladonna)*, gathered in the beginning of July; bruise, express the juice, and set it aside for forty-eight hours: then add to the clear decanted liquor one fifth part of rectified spirit.

Dose.—From twenty to forty drops, gradually increased, while its effects should be carefully observed.

Use.—This liquid is useful in all cases in which belladonna is indicated.

◆

6. LIQUOR OF COLCHICUM.

Made in the same manner as the above, from the fresh bulbs of meadow-saffron *(Colchicum autumnale)*.

Dose.—From five to twenty drops. It is a most active preparation, and keeps well.

◆

7. CICUTA-LIQUOR.

Prepared in the same manner as the preceding, from the fresh leaves of the Cicuta *(Conium maculatum)*. It is the most certain of the preparations of Cicuta, as it is of a uniform strength, and keeps well.

Dose.—Thirty drops, gradually increased to one fluid dram every three or four hours, its effects being carefully watched. It is best administered in water sweetened with simple sirup or sirup of poppies.

◆

8. FOXGLOVE-LIQUOR.

This is prepared after the above method, from the fresh leaves of the foxglove *(Digitalis purpurea)*.

Dose.—From one to two drams may be administered.

◆

9. HENBANE-LIQUOR.

Made by a similar process, from the fresh leaves of the black henbane *(Hyosciamus niger)*. This is the best preparation of henbane.

Dose.—From twenty to forty drops.

MIXTURES.

Mixtures are a combination of medicines in a liquid form, or when substances are diffused through liquids by means of mucilage or sirup.

1. NERVOUS MIXTURE.

Take Mixture or Liquid Carbonate of Ammonia	½ dram.
Mint-Water *(Mentha viridis)*	1½ ounces.
Compound Tincture of Cardamom *(Amomum Cardamomum)*	½ ounce.—Mix.

Dose.—Two tablespoonfuls three times a day.

Use.—Beneficial in fainting, hysterics, debility, and all nervous cases. This preparation was often prescribed by Sir Astley Cooper, and highly recommended by him.

◆

2. NEUTRALIZING MIXTURE, OR PHYSIC.

Take Rhubarb, pulverized *(Rheum palmatum)*	2 scruples.
Sal-aëratus, pulverized	2 scruples.
Peppermint-plant, pulverized *(Mentha piperita)*	2 scruples.
Boiling Water	½ pint.

Strain, sweeten with loaf-sugar, and add a tablespoonful of brandy.

Dose.—One or two tablespoonfuls every quarter, half, or one or two hours, according to the symptoms. For children, in proportion to the age.

Use.—This is one of the most valuable preparations known for cholera-morbus, cholera-infantum, or summer-complaint of children, diarrhœa, dysentery, &c. Its operation and effects seem to render it an almost infallible remedy. It is very similar in its action to the *Neutralizing Cordial* (see Cordials), differing only in form.

◆

3. HOOPING-COUGH MIXTURE.

Take best Musk *(Moschus)*	6 grains.
White Sugar *(Saccharum alba)*	1 scruple.
Gum-Arabic, pulverized *(Acacia vera)*	1 dram.
Fennel-Water *(Anethum fœniculum)*	1 ounce.
Sirup of Marshmallows *(Althæa officinalis)*	3 ounces.—Mix.

Dose.—One teaspoonful every two hours.

Use.—This mixture is highly recommended in hooping-cough. LOBSTEIN.

◆

4. SULPHUR-MIXTURE.

Take Cream of Sulphur *(Sulphur precipitatum)*	2 drams.
Fennel-Water *(Anethum fœniculum)*	3 ounces.
Cinnamon-Water *(Laurus cinnamomum)*	1 ounce.
Sirup of Poppies *(Papaver somniferum)*	½ ounce.—Mix.

Dose.—A teaspoonful every hour.

Use.—Said to be an efficacious remedy for *diarrhœa urinæ.* LOBSTEIN.

◆

5. M'MUNN'S ELIXIR OF OPIUM.

Take Opium, pulverized *(Papaver somniferum)*	1 ounce.
Muriatic Acid *(Acidum muriaticum)*	1 ounce.
Pure Water *(Aqua pura)*	20 ounces.

Mix the acid and water together, and then add the opium; shake it daily, digesting it fourteen days, and filter.

Dose.—From ten drops to a teaspoonful may be administered for a dose.

Use.—This is a good substitute when the common preparations of opium are objectionable. It is said to act without producing headache or constipation, as it possesses the other properties of opium, without the constipating effects of that drug.

◆

6. COUGH-MIXTURE.

Take	Sirup of Ipecac *(Syrupus Ipecacuanha)*	¼ ounce.
	Sirup of Squills *(Syrupus scillæ)*	¼ ounce.
	Tincture of Blood-root *(Sanguinaria canadensis)*	¼ ounce.

Dose.—The dose of this may be from one half to a teaspoonful once a day.

◆

7. FOR HOOPING-COUGH.

Take	Ipecacuanha *(Cephaëlis ipecacuanha)*	14 grains.
	Lukewarm Water	½ pint.

Mix and digest.

Dose.—The dose of this mixture is one teaspoonful occasionally.

◆

8. ANOTHER.

Take	Salt of Tartar *(Potassæ carbonas purus)*	1 scruple.
	Cochineal *(Coccus cacti)*	10 grains.
	Water	1 gill.

Mix and digest; then sweeten with loaf-sugar.

Dose.—The dose for an infant is one teaspoonful four times a day; for a child of from one to four years old, a tablespoonful four times a day.

Use.—In hooping-cough, this preparation is said to afford immediate relief.

◆

9. FOR THE GOUT.

Take	White Hellebore *(Veratrum album)*	1 pound.
	Thorn-Apple leaves *(Datura stramonium)*	½ pound.
	Black Henbane *(Hyoscianus niger)*	¼ pound.
	Cicuta *(Conium maculatum)*	¼ pound.
	Large Sorrel *(Rumex acetosus)*	¼ pound.

Pulverize all, mix it with two gallons of best brandy, and steep it down to one gallon.

Use.—In the treatment of the gout, bathe the feet and legs with this mixture (made hot) every night. From three to fifteen drops may be taken internally every night and morning in a little milk. This has proved a very successful treatment of the affection.

◆

10. VINEGAR OF COFFEE.

Take	roasted Coffee, ground *(Coffea arabica)*	3 ounces.
	Vinegar	12 ounces.

Mix, boil, and strain; then add—

	White Sugar *(Saccharum alba)*	1½ ounces.

Dose.—Two spoonfuls may be given occasionally.

Use.—In poisoning by opium, after the evacuation of the poison, this is effectual.

◆

11. CREASOTE-MIXTURE.

Take	Creasote *(Creasotum)*	2 drops.
	Mucilage of Gum-Arabic *(Acacia vera)*	2 drams.
	Distilled Water *(Aqua distillata)*	1 ounce.
	Spirit of Nutmeg *(Spiritus nucis moschatæ)*	2 drams.

Mix. Let this draught be given at once, and repeated every other hour, if necessary, or until the vomiting is checked.

Use.—This preparation is useful to check obstinate vomiting. NELIGAN.

◆

12. COMPOUND FOXGLOVE-MIXTURE.

Take Juice of Digitalis *(Digitalis purpurea)*	12 drops.
Camphor-Mixture *(Aqua camphoræ)*	1 ounce.
Sirup of Orange-peel *(Syrupus aurantii)*	2 drams.
Prussic Acid *(Acidum hydrocyanum)*	1 drop.

Mix, and make a draught, to be taken two or three times in the twenty-four hours.

Use.—This forms an excellent remedy in nervous palpitations. NELIGAN

◆

13. ASTHMATIC MIXTURE.

Take Ethereal Tincture of Lobelia *(Lobelia inflata)*	2 drams.
Almond-Mixture *(Mistura amygdalæ)*	6½ ounces.
Hemlock-juice *(Conium maculatum)*	2 drams.
Sarsaparilla-sirup *(Syrupus sarparillæ)*	1 ounce.—Mix.

Dose.—A tablespoonful every three hours.

Use.—This is an excellent mixture in asthma and paroxysmal coughs. NELIGAN

◆

14. IPECAC AND TOLU MIXTURE.

Take Wine of Ipecac *(Vinum ipecacuanhæ)*	3 drams.
Sirup of Tolu *(Syrupus tolutani)*	5 drams.
Mucilage of Gum-Arabic *(Mucilago gummi acaciæ)*	1 ounce.—Mix.

Dose.—A teaspoonful every hour or two.

Use.—For children threatened with an attack of croup or bronchitis. CHEYNE.

◆

15. ELIXIR OF VITRIOL.

Take Oil of Vitriol *(Acidum sulphuricum)*	3½ fl. ounces.
Ginger, bruised *(Amomum zingiber)*	1 ounce.
Cinnamon *(Laurus cinnamomum)*	1½ ounces.
Alcohol *(Spiritus rectificatus)*	1 quart.

Drop the acid gradually into the alcohol, and digest in a close vessel for three days; then add the other articles, macerate for a week, and filter.

Dose.—From ten to fifteen drops, taken occasionally.

Use.—This mixture forms a valuable remedy in checking night-sweats.

◆

16. ALUM-MIXTURE.

Take Alum *(Alumen)*	1½ drams.
Sirup of Roses *(Syrupus rosæ)*	1 ounce.
Rose-Water *(Aqua rosæ)*	7 ounces.—Mix

Dose.—A tablespoonful every three or four hours.

Use.—In chronic diarrhœa, flooding, fluor-albus, and painters' colic. NELIGAN.

◆

17. STIMULATING MIXTURE.

Take Sulphuret of Potash *(Potassii sulphuretum)*	40 grains.
Distilled Water *(Aqua distillata)*	6 ounces.
Sarsaparilla-sirup *(Syrupus sarsaparillæ)*	2 ounces.

Mix, and make a draught.

Dose.—A tablespoonful three or four times a day.

Use.—This is highly recommended in rebellious cutaneous diseases. NELIGAN

◆

18. COMPOUND UVA-URSI MIXTURE.

Take	Tincture of Buchu *(Diosma crenata)*	½ ounce.
	Decoction of Uva-ursi *(Arbutus uva-ursi)*	7½ ounces.—Mix.

Dose.—Half a wineglassful four times a day.

Use.—This preparation has been employed in chronic catarrh of the bladder, and i chronic mucous discharges from the vagina or urethra. NELIGAN.

◆

19. IRON-MIXTURE.

Take	Pernitrate of Iron *(Ferri pernitras)*	2 drams.
	Simple Sirup *(Syrupus simplex)*	6 drams.
	Distilled Water *(Aqua distillata)*	3 ounces.—Mix.

Dose.—A tablespoonful every six hours.

Use.—A very useful astringent tonic mixture in chronic mucous diarrhœa, and i leucorrhœa. NELIGAN.

◆

20. PRUSSIC-ACID MIXTURE.

Take	Prussic Acid *(Acidum hydrocyanum)*	1 drop.
	Distilled Water *(Aqua distillata)*	1 ounce.
	Simple Sirup *(Syrupus simplex)*	1 ounce.—Mix.

Dose.—The above mixture is to be taken at a draught, and repeated every two hours, until the symptoms abate.

Use.—In gastric irritability, nervous palpitations, angina pectoris, &c. NELIGAN.

◆

21. MUSTARD-MIXTURE.

Take	Mustard-flour *(Sinapis niger)*	1 ounce.
	Warm Water	12 ounces.—Mix.

To be taken at a draught, or sufficient to vomit.

Use.—This forms an excellent stimulant emetic, particularly useful when the vita powers are declining, and for an instant emetic in poisons. NELIGAN.

◆

22. STIMULATING DRAUGHT—NO. 1.

Take	Spirit of Sulphuric Ether *(Spiritus ætheris sulphurici)*	1 dram.
	Solution of Muriate of Morphia *(Morphiæ solutio)*	15 drops.
	Peppermint-Water *(Aqua mentha piperita)*	1 ounce.

Make a mixture. Give one half, and repeat the dose, if necessary, every quarter or half an hour.

Use.—This compound is a powerful stimulant and anti-spasmodic; it is very useful in spasms of the stomach, and in spasmodic colic. NELIGAN.

◆

23. STIMULATING DRAUGHT—NO. 2.

Take	Spirit of Sulphuric Ether *(Spiritus ætheris sulphurici)*	1 dram.
	Camphor-Mixture *(Mistura camphoræ)*	1 ounce.
	Compound Tincture of Cardamom *(Tinctura cardamomi composita)*	2 drams.

Mix, and make a draught: to be given at once, and repeated every two hours, or unti the colic subsides.

Use.—This mixture is very beneficial in flatulent colic. NELIGAN.

24. COMPOUND MIXTURE.

Take Bromide of Potash *(Potassii bromidum)*	20 grains.
Orange-flower Water *(Aqua aurantii flores)*	3 ounces.
Sirup of Orange-peel *(Syrupus aurantii)*	1 ounce.

Make a mixture.

Dose.—One fourth part every six hours.

Use.—In chronic enlargements of the liver and spleen, and in secondary syphilitic affections, this article has been highly recommended. NELIGAN.

◆

25. HENBANE-MIXTURE.

Take Oil of Henbane *(Hyosciamus niger)*	½ ounce.
Gum-Camphor *(Laurus camphora)*	½ ounce.
Tincture of Opium *(Papaver somniferum)*	1 dram.—Mix.

Use.—This is to be applied in frictions every two hours. HUFELAND.

◆

26. ICELAND-MOSS MIXTURE.

Take Iceland-Moss jelly *(Cetraria islandica)*	½ ounce.
Sirup of Licorice *(Glycyrrhiza glabra)*	1 ounce.—Mix.

Dose.—A teaspoonful every two hours.

Use.—This is a good expectorant, useful in colds and coughs. HUFELAND.

◆

27. CAMPHOR-MIXTURE.

Take Camphor *(Laurus camphora)*	2 drams.
Alcohol *(Spiritus rectificatus)*	40 drops.
Carbonate of Magnesia *(Magnesiæ carbonas)*	1 dram.
Distilled Water *(Aqua distillata)*	1 quart.

Rub the camphor first with the alcohol, afterward with the carbonate of magnesia, and lastly with the water gradually added; then filter through paper.

Dose.—It is usually given in the dose of one or two tablespoonfuls, repeated every hour or two hours.

Use.—Camphor-water is chiefly employed in low fevers and typhoid diseases attended with restlessness, slight delirium, or other symptoms of nervous derangement or debility. It is used also to allay uterine after-pains. It has this advantage over camphor in substance, that the latter is with difficulty dissolved by the liquors of the stomach; but it is not applicable to cases where very large doses of the medicine are required. WOOD.

◆

28. ALMOND-MIXTURE.

Take Sweet Almonds *(Amygdala communis)*	½ ounce.
Gum-Arabic, pulverized *(Acacia vera)*	½ dram.
White Sugar *(Saccharum alba)*	2 drams.
Distilled Water *(Aqua distillata)*	8 fl. ounces.

Macerate the almonds in water, and, having removed their external coat, beat them with the gum-arabic and sugar, in a marble mortar, till they are thoroughly mixed; then rub the mixture with the distilled water gradually added, and strain.

When the almonds are employed, care should be taken to reduce them to the consistence of a paste previously to the addition of the water; and with each successive portion of fluid a uniform mixture should be formed before another is added. Common water, when not very impure, may be properly substituted for the distilled. Great care should be taken to select the almonds perfectly free from rancidity. The mixture is not permanent. Upon standing, the oil rises like thick cream to the surface, and the separation is effected more quickly by heat, alcohol, and the acids, which coagulate the albumen. It has a close analogy to milk in chemical relations as well as in appearance. The preparation, in warm weather, soon becomes sour, and unfit for use.

Dose.—To be of service, it must be freely employed. From two to eight fluid ounces may be taken at once.

Use.—The almond-mixture has a bland taste, and may be used as an agreeable, nutritive demulcent in catarrhal and dysenteric affections, and irritation of the urinary passages. It is occasionally employed as the vehicle of less agreeable medicines, but should not be used in connexion with any considerable quantity of tinctures, acidulous salts, or other substances containing an excess of acid. WOOD.

MUCILAGES.

MUCILAGES are soft, bland substances, made by dissolving different kinds of gum, or the roots, leaves, or other parts of plants, which abound with these properties. Mucilaginous drinks are useful in diseases of the bowels, urinary organs, &c.; and are likewise employed to cover any acrid matter taken internally, so as to prevent its irritating the parts over which it passes.

1. MUCILAGE OF GUM-ARABIC.

Take Gum-Arabic *(Acacia vera)*	4 ounces.
Boiling Water	8 ounces.

Rub the gum with the water gradually, until it forms a mucilage; then strain.

Dose.—Half a wineglassful three or four times a day.

Use.—Mucilage of gum-arabic is used in pharmacy to suspend in water substances insoluble in that liquid, to diffuse oils in water, and for other similar purposes. It is also sometimes employed in the formation of pills. It is very useful in diseases attended with heat, in scalding of the urine, and as a vehicle for taking the *Diuretic Drops.*

◆

2. MUCILAGE OF SLIPPERY ELM.

Take Slippery-Elm bark *(Ulmus fulva)*	1 dram.
Boiling Water	1 quart.

Let it stand an hour, and form a mucilage.

Use.—This mucilage is employed in gastro-enteritis, or inflammation of the stomach, in bowel-complaints generally, and in other diseases.

◆

3. ICELAND-MOSS JELLY.

Take Iceland Moss *(Cetraria islandica)*	2 parts.
Water	20 parts.

Simmer down to six parts, and strain; then add—

White Sugar *(Saccharum alba)*	4 parts.

Mix all together, and set it by to cool.

Use.—This is an excellent article in colds, coughs, and soreness of the chest.

◆

4. MUCILAGE OF TRAGACANTH.

Take Tragacanth *(Astragalus verus)*	1 ounce.
Boiling Water	1 pint.

Macerate the tragacanth in the water for twenty-four hours, occasionally stirring; then triturate it so as to render the mucilage uniform, and strain forcibly through linen.

Use.—This mucilage is chiefly employed in the manufacture of pills and troches, but we make very little use of it.

OILS.

OILS are of various kinds, and used either singly or combined. When applied externally, they are generally employed for rheumatism and other painful affections. The simple oils are treated of under their proper head (see page 373).

1. RHEUMATIC OIL.

Take	Oil of Wormwood *(Artemisia absinthium)*	1 ounce.
	Oil of Sassafras *(Laurus sassafras)*	1 ounce.
	Oil of Cedar *(Juniperus virginiana)*	1 ounce.
	Oil of Hemlock *(Pinus canadensis)*	1 ounce.
	Oil of Turpentine *(Pinus palustris)*	1 ounce.
	Oil of Olives *(Olea europæa)*	4 ounces.
	Camphor *(Laurus camphora)*	1 ounce.—Mix.

Use.—This oil is exceedingly efficacious in relieving pain in chronic rheumatism. It is also a good remedy in sprains, contusions, and in painful affections of almost every description. It may be applied warm three or four times a day to the affected parts, which are to be well rubbed with the hand or with a soft flesh-brush.

◆

2. ANTHELMINTIC OIL.

Take	Castor-Oil, best quality *(Ricinus communis)*	1 ounce.
	Wormseed-Oil *(Chenopodium anthelminticum)*	1 dram.
	Anise-Oil *(Pimpinella anisum)*	1 dram.
	Tincture of Myrrh *(Balsamodendron myrrha)*	1 dram.

Mix, and warm it to the temperature of milk, which is necessary in order that the ingredients may become fully incorporated.

Dose.—For an adult, one large teaspoonful, three or four times a day, for three days; for children, in proportion, according to age. Should the bowels remain inactive until the second day in the evening, give a dose of rhubarb, or any other approved cathartic medicine.

Use.—This preparation is highly recommended by a person of competent knowledge and experience, and therefore merits a trial. HOWARD.

◆

3. OIL OF WORMWOOD.

Take	Wormwood *(Artemisia absinthium)*	1 ounce.
	Olive-Oil *(Olea europæa)*	8 ounces.

Mix these together, and heat for two hours in a water-bath, stirring often; then express and filter.

Use.—It is employed as an embrocation to the abdomen in cardialgia, diarrhœa, &c.

◆

4. HENBANE-OIL.

Take	Henbane-leaves, fresh *(Hyosciamus niger)*	1 ounce.
	Olive-Oil *(Olea europæa)*	2 ounces.

Bruise the leaves, mix with the oil, and heat it over a gentle fire until all the water is evaporated; then digest for two hours, and strain with expression.

Use.—This is very valuable for external use in poultices, liniments, &c., for rheumatism and other painful affections. (The preceding is an excellent method of preparing many of our narcotic plants for external use.)

OINTMENTS.

Ointments form a class of medicines which contain the properties of certain vegetables designed for external use. Their consistence is softer than that of salves or plasters, the heat of the body being sufficient to melt them. Lard and butter, or oil with wax, are principally used to make them. According to the direction given in the common dispensatories, the properties of vegetables are not communicated to either of these substances (through the medium of water alone), particularly if they are dry; but by simmering them in spirits, the virtues are extracted and imparted, and the desired union is obtained.

"Compound ointments," says Griffith, "are of three kinds: one consisting of simple ointment, combined mechanically with various substances; the second, formed by dissolving the active ingredients in melted ointment or lard; the third, made by uniting substances to the fatty matters that induce a chemical action between them.

"Compound ointments of the first class are mixtures of the fatty basis with various solid and liquid substances; these are incorporated by trituration in a mortar, or on a stone slab. When hard substances enter into the combination, they require to be previously reduced to a fine powder, or, if they are soluble, to be rubbed into a paste with an appropriate menstruum, and then admixed. When extracts form constituents of an ointment, if they are not of a soft consistence, they should be rendered so by trituration with water before they are mixed with the fatty body. The mixture of two or more ointments may be effected by rubbing them together on a stone slab by means of a spatula.

"Compound ointments of the second kind are made by boiling recent vegetable substances in the fatty basis, until all the water of vegetation is driven off; the heat should then be reduced to about that of boiling water, when the ointment is to be strained. Those of the third kind, as citrine ointment, are prepared by adding the constituents gradually together, aided by heat, and constantly stirring.

"Ointments are preserved by keeping them in glazed jars, with the surface covered with tin foil. According to M. Deschamps, the admixture of a twenty-fifth part of benzoin with the fatty matter used to make the ointment, will prevent or greatly retard the process of decomposition. In the case of simple, and those for highly irritable surfaces, this plan answers well; where it is inexpedient, the ointments should be renewed at short intervals."

1. STRAMONIUM-OINTMENT.

Take fresh stramonium-leaves *(Datura stramonium)*, a proper quantity; bruise them to a pulp, and put them into an earthen vessel; cover with spirits and lard; simmer the leaves until they become crisped; then strain, and add of Venice turpentine half a pound to every ten pounds of the ointment.

Use.—This is a good application for scalds, burns, piles, and cutaneous eruptions, attended with inflammation. It may be applied occasionally with the finger or with a piece of linen.

2. VENICE-TURPENTINE OINTMENT.

Take Venice Turpentine *(Pinus larix)*	½ pound.
Tar *(Pinus palustris)*	¼ pound.
Fresh Butter	1 pound.

Simmer until they are united.

Use.—This ointment may be employed in the treatment of tinea capitis (scald head). After the parts have been washed with soap and water, let the ointment be applied three times a day.

3. GREEN OINTMENT.

Take Double Tansy *(Tanacetum crispum)*	1 ounce.
Wormwood *(Artemisia absinthium)*	1 ounce.
Horehound *(Marrubium vulgare)*	1 ounce.
Catnep *(Nepeta cataria)*	1 ounce.
Hops *(Humulus lupulus)*	1 ounce.

Bruise these, and put them into a kettle; cover over with spirits and lard, and let it stand for two weeks; then simmer a while, and strain. Add one pound of common turpentine to every ten pounds of the ointment.

Use.—This ointment is very cooling, resolvent, relaxing, and emollient. It is useful in sprains, contusions, swellings, dislocations, contracted sinews, &c.

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4. YELLOW OINTMENT.

Take Lard or fresh Butter	1 pound.
Flowers of Sulphur *(Sulphur sublimatum)*	4 ounces.

Mix together, and stir till cold.

Use.—The yellow ointment is employed in the treatment of piles, and is likewise very useful in itch, and in tetter or salt-rheum.

◆

5. DISCUTIENT OINTMENT.

Take Bark of Bittersweet-root *(Celastrus scandens)*	2 ounces.
Stramonium-leaves *(Datura stramonium)*	2 ounces.
Cicuta-leaves *(Conium maculatum)*	2 ounces.
Deadly Nightshade *(Atropa belladonna)*	2 ounces.
Yellow-Dock root *(Rumex crispus)*	2 ounces.
Lard	1 pound.

Bruise, and simmer the roots and leaves in spirits; then add the lard, and simmer till the ingredients are crisped.

Use.—This forms an exceedingly valuable ointment in discussing scrofulous, indolent, and glandular tumors and swellings. The parts should be rubbed for about half an hour at each application, and then a piece of cotton applied, secured by a proper bandage.

◆

6. VEGETABLE OR TETTER OINTMENT.

Take White Turpentine *(Pinus palustris)*	½ pound.
Unsalted Butter	½ pound.
Olive-Oil *(Olea europæa)*	1 ounce.
Beeswax	2 ounces.
Indian Turnip *(Arum triphyllum)*	1 ounce.
White-Lily leaves *(Lilium candidum)*	1 ounce.
Common Plantain leaves *(Plantago major)*	1 ounce.

Bruise the leaves and roots, and slowly simmer them in spirits, in an earthern vessel, which should be slightly covered; then strain, and when nearly cold add two drams of yellow ochre.

Use.—This ointment has cured many of the most inveterate cases of salt-rheum and herpetic affections.

◆

7. ITCH-OINTMENT.

Take native Sulphur, fine *(Sulphur vivum)*	1 ounce.
Venice Turpentine *(Pinus larix)*	1 ounce.
Lard	½ pound.

Melt the lard and turpentine; then add the sulphur, and stir till it is cold. Let it applied two or three times a day.

Use.—It soon cures the complaint, without the necessity of changing the clothes.

◆

8. CELANDINE-OINTMENT.

Take Garden Celandine *(Chelidonum majus)*; bruise, and cover with any kind spirits; simmer for a while; then add fresh butter, and let it remain over the fire u the leaves are crisped; strain.

Use.—This ointment is useful in the piles and in cutaneous eruptions.

◆

9. OPHTHALMIC OINTMENT, OR EYE-SALVE.

Take Fresh Butter	3 ounces.
White or yellow Wax	½ ounce.
Red Precipitate	2½ drams.
Prepared Tutty, or pure Zinc pulverized	1 dram.

Melt and mix all the other articles, and then add—

Camphor, dissolved in olive-oil	1 dram.

Use.—We now employ this ointment, in preference to every other, for salt-rheum a all cutaneous eruptions, as well as in chronic ophthalmia.

◆

10. HERPETIC OINTMENT.

Take Yellow-Dock roots *(Rumex crispus)*	1 ounce.
Scabious *(Erigeron philadelphicum)*	1 ounce.
Swamp-Sassafras *(Cornus alternifolia)*	1 ounce.

Boil down strong, and add one pound of lard; then simmer down to an ointment.

Use.—Rub this ointment on the parts affected three or four times a day.

◆

11. MARSHMALLOW-OINTMENT.

Take Marshmallow tops and roots *(Althæa officinalis)*	½ pound.
Spirits	q. s.

Bruise and simmer; then cover the plant with fresh butter, and simmer until the strengt is extracted.

Use.—This forms a very cooling ointment, and is efficacious in all kinds of eruption attended with inflammation, such as erysipelas, sore nipples, and cutaneous affection (particularly in children) in the face and around the ears.

◆

12. TOBACCO-OINTMENT.

Take Tobacco, cut fine *(Nicotiana tabacum)*	¼ pound.

Cover with spirits, and add—

Fresh Lard	1 pound.

Simmer over a moderate fire until the herb is a little crisped; then remove and strain.

Use.—For piles, salt-rheum, and herpetic affections. This makes the best pile-ointment of any in use, to be applied two or three times a day.

◆

13. BITTERSWEET-OINTMENT.

Take Bark of Bittersweet-root *(Celastrus scandeus)*	4 ounces.

Cover with spirits, and add—

Unsalted Butter	1 pound.

Simmer and strain.

Use.—This makes one of the best ointments for tumors, swelled breast, and other affected parts. It may be applied two or three times a day.

◆

14. SCROFULOUS OINTMENT.

Take Tobacco, best quality *(Nicotiana tabacum)*	1 ounce.
Yellow Dock *(Rumex crispus)*	4 ounces.
Wood-Soot	4 ounces.
Unsalted Butter	4 ounces.
Tar *(Pinus palustris)*	4 ounces.
Spirits of Camphor *(Laurus camphora)*	2 ounces.

Boil the tobacco, dock, and soot, in two gallons of water down to one gallon; then strain off and boil down to one quart. Add the butter and tar, and simmer over a fire of coals down to one and a half pints; then add the camphor, and stir till cool.

Use.—This ointment is applied to scrofulous ulcers, scald head, itch, and all diseases of the skin. WELLS.

◆

15. SCALD-HEAD OINTMENT.

Take Tar *(Pinus palustris)*, boiled until the water is evaporated	2 ounces.
Tallow from smoked Beef	2 ounces.
Black Pepper, pulverized *(Piper nigra)*	6 ounces.

Melt the tar and tallow together, and then stir in the pepper. Apply the ointment upon the head, after cutting off the hair closely. If there are any painful tumors of a large size on the scalp, cut them down with caustic potash, and apply the *Black Salve*.

◆

16. HENBANE-OINTMENT.

Take Extract of Henbane *(Hyosciamus niger)*	1 dram.
Lard	1 ounce.

Mix, and rub together into an ointment.

Use.—This ointment forms a good application to painful hemorrhoids.

◆

17. COMPOUND OINTMENT OF HENBANE.

Take Henbane-leaves, fresh *(Hyosciamus niger)*	½ pound.
Stramonium-leaves *(Datura stramonium)*	½ pound.
Bittersweet-leaves *(Solanum dulcamara)*	½ pound.
Elder-bark *(Sambucus canadensis)*	½ pound.
Lard	2 pounds.

Mix and heat all together till the moisture has evaporated, and then strain.

Use.—This compound forms a good ointment for frost-bites, chilblains, &c.

◆

18. NARCOTIC OINTMENT.

Take Balm-of-Gilead buds, fresh *(Populus balsamifera)*	4 ounces.
Henbane-leaves *(Hyosciamus niger)*	1 ounce.
Poppy-petals *(Papaver somniferum)*	1 ounce.
Belladonna-leaves *(Atropa belladonna)*	1 ounce.
Bittersweet-leaves *(Solanum dulcamara)*	1 ounce.
Lard	12 ounces.

Mix and heat all together till the moisture has evaporated, and strain.

Use.—This article is much employed in Europe, under the name of "UNGUENTUM POPULEUM." It is a soothing and anodyne ointment to painful local affections.

19. OINTMENT OF POKE-ROOT.

Take Poke-root, pulverized *(Phytolacca decandria)*	1 dram.
Lard	1 ounce.

Mix, and rub together to form an ointment.

Use.—This is excellent as an application in tinea capitis, psora, &c.

20. COMPOUND TOBACCO-OINTMENT.

Take Tobacco, powdered *(Nicotiana tabacum)*	4 ounces.
Flowers of Sulphur *(Sulphur sublimatum)*	4 ounces.
White Hellebore, powdered *(Veratrum album)*	2 ounces.
Mullein *(Verbascum thapsus)*	1 ounce.
Common Salt	10 drams.
Rose-Ointment *(Rosæ gallicæ)*	2 pounds.—Mix.

Use.—This constitutes a good application in psora, &c.

21. OINTMENT FOR BURNS.

Take Elder-bark, scraped *(Sambucus canadensis)*	1 ounce.
Yarrow tops and leaves *(Achillea millefolium)*	1 ounce.
Plantain-leaves *(Plantago major)*	1 ounce.
Rose-Willow bark *(Cornus sericea)*	1 ounce.
Stramonium-leaves *(Datura stramonium)*	1 ounce.
Lard	q. s.
Beeswax	q. s.

Mix these together, and form an ointment. Apply in the usual manner.

22. ACONITE-OINTMENT.

Take Alcoholic Extract of Monkshood *(Aconitum napellus)*	1 part.
Lard	2 parts.

Mix, and form an ointment.

Use.—This preparation has been recommended as a friction in neuralgia.

23. OINTMENT OF SILVER.

Take Nitrate of Silver *(Argenti nitras)*	2 grains.
Lard	2 drams.

Mix well into an ointment.

Use.—This ointment forms a good application in chronic ophthalmia.

24. OINTMENT OF GOLD.

Take Chloride of Gold *(Auri chloridum)*	8 grains.
Lard	½ ounce.

Mix well and form an ointment.

Use.—Ointment of gold is employed to relieve rheumatic pains.

25. OINTMENT OF GOLD AND SODIUM.

Take Chloride of Gold and Sodium *(Auri sodii chloridum)*	1 scruple.
Lard	1 ounce.

Mix well into an ointment.

Use.—This ointment is recommended in obstinate herpetic affections.

26. EGYPTIAN OINTMENT.

Take Verdigris (*Cupri subacetas*)	5 parts.
Purified Honey	16 parts.
Strong Vinegar	7 parts.
Burnt Alum (*Alumen*)	½ part.

Mix, and melt by a gentle heat, stirring constantly.

Use.—Said to form an excellent detergent application to foul ulcers.

◆

27. STIMULATING OINTMENT.

Take Oil of Turpentine (*Pinus palustris*)	½ ounce.
Prepared Lard (*Adeps præparatus*)	1½ ounce.
Oil of Bergamot (*Citrus limetta*)	12 drops.

Mix, and make an ointment.

Use.—This ointment is recommended in chronic eczema and impetigo of the scalp. To be applied and rubbed in at night on going to bed. NELIGAN.

◆

28. PILE-OINTMENT.

Take Belladonna-Ointment (*Unguentum belladonna*)	2 ounces.
Camphor, pulverized (*Laurus camphora*)	1 dram.
Opium, pulverized (*Papaver somniferum*)	1 dram.

Mix, and make an ointment.

Use.—A valuable application to painful hemorrhoids, and along the urethra in chordee.

◆

29. LAUREL-OINTMENT.

Take Laurel-leaves, fresh (*Kalmia latifolia*)	4 ounces.
Fresh Butter or Lard	8 ounces.

Bruise the leaves, and cover them with spirits; then add the lard, simmer till the leaves are crisp, and strain.

Use.—This ointment forms a good application for salt-rheum, and obstinate cases of herpes. Apply a small quantity once or twice a day. If it causes irritation, omit it and take a little sulphur and cream of tartar once a day.

◆

30. BELLADONNA-OINTMENT.

Take Extract of Belladonna (*Atropa belladonna*)	2 drams.
Unsalted Butter or Lard	1 ounce.

Rub up together.

Use.—Good in painful hemorrhoidal affections, chordee, earache, &c. NELIGAN.

PILLS.

PILLS are certain small, round substances, composed of medical agents, and are designed to operate in small doses, the disagreeable taste or smell of which renders it necessary that they should be concealed from the palate. In general, they do not operate as soon as medicine as in other forms. In pills is a good way to administer many kinds of medicine, as some persons can take it prepared in this manner better than in any other; besides, there is a great uniformity in the doses, which can very conveniently be increased. Powdered licorice and mucilage are important articles in forming pills.

"The article or articles to be administered in this mode," says Griffith, "should first be formed into a consistent, moderately firm mass—sufficiently plastic to admit of its being moulded into shape, without adhesion to the moulding instrument, and yet of so firm a consistence as to retain the form given to it. To accomplish this, the following r must be attended to:—

"1. All the constituents which can be pulverized must be reduced to the state of a powder, and then thoroughly mixed together.

"2. If soft ingredients enter into the composition, they must be triturated with harder articles, which thus serve as an intermedium.

"3. No deliquescent salt should enter into the composition of officinal pills; otherw they will become altered and decomposed."

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1. ANTI-DYSPEPTIC PILL.

Take	Socotrine Aloes *(Aloe socotorina)*	4 ounces.
	Castile Soap	2 ounces.
	Colocynth *(Cucumis colocynthis)*	2 ounces.
	Gamboge *(Stalagmitis gambogia)*	2 ounces.
	Extract of Gentian *(Gentiana lutea)*	4 ounces.
	Oil of Cloves *(Eugenia caryophyllata)*	2 drams.

Mix, and form into pills of the ordinary size.

Dose.—One or two, morning and evening, according as they operate.

Use.—This is a very valuable pill: while it cleanses the stomach, it restores the ton without causing debility. After using this for a great length of time, I still find it supe rior to any other pill I have ever seen. It is also good in obstructed menses.

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2. NERVOUS OR HYSTERIC PILL.

Take	Asafœtida *(Ferula asafœtida)*	1 ounce.
	Opium *(Papaver somniferum)*	1 ounce.
	Carbonate of Ammonia *(Ammoniæ bicarbonas)*	1 ounce.

Dissolve the first two articles over a fire; then add the ammonia, mix, and form into pill of the ordinary size: keep them in a close-stopped bottle.

Dose.—One or two.

Use.—This pill is very useful in hysterics, and in all nervous derangements.

◆

3. OPIUM-PILL.

Take Turkey Opium *(Papaver somniferum);* cut out the soft part, form it into pill of three grains' weight, and rub them in a little flour or magnesia.

Dose.—One (and, if necessary, two) every hour.

Use.—This is the best form to give opium in very urgent and acute cases. In vomit ing, from any cause, attended with spasm, it affords prompt relief; useful in colic, &c.

◆

4. CICUTA-PILL.

Take extract of Cicuta *(Conium maculatum),* and form into pills.

Dose.—One or two of these may be administered for a dose.

Use.—This pill aids in discussing hard glandular tumors, and also acts as a deobstruen on the liver.

◆

5. HYDRAGOGUE PILL.

Take	Jalap, pulverized *(Ipomea jalapa)*	1 scruple.
	Scammony *(Convolvulus scammonia)*	1 scruple.
	Gamboge *(Stalagmitis gambogia)*	1 scruple.

Add mucilage of gum-arabic sufficient to form into sixteen pills.

Dose.—One every hour or two.

Use.—This pill has cured the dropsy, and may be given when other means fail.

6. CAPSICUM OR STIMULATING PILL.

Take Cayenne Pepper *(Capsicum baccatum)*; add sufficient mucilage to form into pills: or the powdered cayenne may be formed into pills with some mucilage, and be sugar-coated afterward.

Dose.—Give one twice or three times a day.

Use.—This pill forms an excellent article for employment in dropsy of the chest, asthma, flatulence, indigestion, pains, cramps, colic, cholera, &c.

◆

7. ANTI-HYSTERIC PILL.

Take Musk *(Moschus)*	24 grains.
Evtract of Opium *(Papaver somniferum)*	12 grains.
Extract of Valerian *(Valeriana officinalis)*	24 grains.

Make sixteen pills.

Dose.—Give one or two occasionally.

Use.—A very valuable pill for cleansing the stomach, and restoring its tone, without creating debility.

◆

8. MANDRAKE-PILL.

Take Extract of Mandrake *(Podophyllum peltatum)*	2 parts.
Capsicum, pulverized *(Capsicum baccatum)*	1 part.

Mix, and form into pills of the common size.

Dose.—Three or four at night, or sufficient to regulate the bowels.

Use.—Excellent for liver, bilious, dropsical, dyspeptic, and nervous complaints.

◆

9. PODOPHYLLINE-PILL.

Take Resin of Mandrake *(Podophyllum peltatum)*	1 ounce.
Conserve of Roses *(Rosæ gallicæ)*	1 ounce.

Mix, and form into pills. Where the conserve of roses can not be obtained, an extract may be employed.

Dose.—One or two, to be taken occasionally.

Use.—This is a most valuable pill in the same diseases as the one preceding.

◆

10. PILL FOR CHRONIC BRONCHITIS AND ASTHMA.

Take Tar *(Pinus palustris)*	2 ounces.
White Sugar *(Saccharum alba)*	1 ounce.
Skunk-Cabbage root, pulverized *(Ictodes fœtida)*	2 ounces.

Mix, and rub up into pills.

Dose.—Take one pill every one, two, or three hours, as they agree with the stomach, and continue daily till cured, which, in most cases, will be from four to six weeks.

Use.—"This preparation," says a physician, "may almost be called a specific for the cure of chronic bronchitis. I have used it in several cases, and performed cures in all."

◆

11. HEPATIC PILL.

Take Extract of Dandelion *(Leontodon taraxacum)*	1 ounce.
Mandrake, pulverized *(Podophyllum peltatum)*	1 ounce.
Blood-root, pulverized *(Sanguinaria canadensis)*	1 ounce.

Add a few drops of essential oil (peppermint or spearmint), and form the mass into pills of the common size.

Dose.—Take three night and morning.

Use.—This is an extraordinary remedy for the liver-complaint. In general, it soon ves the pain in the side, shoulder, &c., and is excellent in jaundice and affections of lneys. The *Irritating Plaster* should be worn over the seat of the disease. An ment is sure to follow the employment of this pill in a few days. Recently I have he resins of the mandrake and blood-root in its preparation, but can not speak ely of their comparative merits.

12. CROTON-PILL.

ake Croton-Oil *(Croton tiglium)*	2 drops.
Extract of Rhubarb *(Rheum palmatum)*	1 dram.

and form into twelve pills.

e.—Take two or three every night.

.—They will keep the bowels regular, without causing debility.

13. RHEUMATIC PILL.

Take inspissated juice of Poke *(Phytolacca decandria)*	1 ounce.
Gum-Turpentine *(Pinus palustris)*	1 ounce.
Gum-Guaiacum, pulverized *(Guaiacum officinale)*	1 ounce.

Mix, melt, and strain. When sufficiently cool, form into pills.

Dose.—Take three, morning, noon, and night.

Use.—This pill forms an excellent medicine in the treatment of rheumatism.

14. FEMALE-PILL.

Take Red Oxyde of Iron *(Oxydum ferri rubrum)*	1 ounce.
Aloes, pulverized *(Aloe socotorina)*	1 ounce.
White Turpentine *(Pinus palustris)*	1 ounce.

Melt the turpentine, and strain; when cold, pulverize and mix all together with mucilage of gum-tragacanth.

Dose.—Three or four, twice or three times a day, and drink motherwort-tea during the time of taking them.

Use.—This pill constitutes an efficient remedy in obstructed menses.

15. ANTI-BILIOUS PILL.

Take Aloes, pulverized *(Aloe socotorina)*	5 ounces.
Dry Castile Soap, fine	½ ounce.
Gamboge, pulverized *(Stalagmitis gambogia)*	1 ounce.
Colocynth *(Cucumis colocynthis)*	1 ounce.
Extract of Gentian *(Gentiana lutea)*	1 ounce.
Mandrake *(Podophyllum peltatum)*	1 ounce.
Cayenne Pepper *(Capsicum baccatum)*	2 ounces.
Oil of Peppermint *(Mentha piperita)*	½ dram.

Incorporate well together, and form into pills.

Dose.—From three to five.

Use.—This makes one of the best pills for all ordinary complaints, and purges without griping, causing debility, or leaving the bowels in a costive state.

16. STOMACH-PILL.

Take Compound Rhei Pill-mass *(Pilulæ Rhei compositæ)*	4 ounces.
Extract of Boneset *(Eupatorium perfoliatum)*	4 ounces.
Mandrake, pulverized *(Podophyllum peltatum)*	2 ounces.
Pure Ginger, pulverized *(Amomum zingiber)*	½ ounce.

Mix, and form into pills of the ordinary size.

Dose.—One or two, to be taken in the morning and evening.

Use.—This pill is excellent to regulate and strengthen the stomach and bowels.

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17. FOR IMPOTENCY.

Take Iron Filings *(Ferri ramenta)*	1 ounce.
Cinnamon, pulverized *(Laurus cinnamomum)*	2 drams.
Oil of Cinnamon *(Laurus cinnamomum)*	10 drops.
Extract of Gentian *(Gentiana lutea)*	½ ounce.

Mix, and divide the whole into pills of two grains each.

Dose.—Eight pills three times a day, in connexion with a poultice made of the pulverized cinnamon, and the following mixture for frictions on the scrotum:—

Take Oil of Rosemary *(Rosmarinus officinalis)*	15 drops.
Oil of Juniper *(Juniperus communis)*	15 drops.
Oil of Lavender *(Lavandula spica)*	15 drops.
Alcohol *(Spiritus rectificatus)*	1 ounce.
Liquor of Caustic Ammonia *(Liquor Ammoniæ causticum)*	2 drams.
Rose-Water *(Rosa damascena)*	3 ounces.

Make a mixture.

LOBSTEIN.

◆

18. FOR THE GRAVEL.

Take Uva-ursi, pulverized *(Arbutus Uva-ursi)*	2 drams.
Castile Soap	2 drams.
Simple Sirup *(Syrupus simplex)*	q. s.

Mix, form a mass, and divide into seventy-two pills.

Dose.—Two, three, or four, every day half an hour before dinner. When, after a few days, the patient shall find his stomach fatigued, he should take the following pills:

Take Uva-ursi, pulverized *(Arbutus Uva-ursi)*	1 dram.
Extract of Rhubarb *(Rheum palmatum)*	1 dram.
Castile Soap	1 dram.

Mix, and divide this mass into twenty-four pills, which may be taken in the same manner as the first.

LOBSTEIN.

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19. COMPOUND LOGWOOD-PILL.

Take Extract of Logwood *(Hæmatoxylon campechianum)*	1 ounce.
Gum-Opium *(Papaver somniferum)*	1 ounce.

Mix, and form into pills.

Dose.—Take one at bedtime, and whenever there is an evacuation.

Use.—This is a remarkably efficient pill for severe cases of diarrhœa and dysentery. During the epidemic of 1849 it had a very beneficial effect, prescribed by Dr. J. Hassell.

◆

20. GOLDEN PILL—NO. 1.

Take Bichloride or Muriate of Gold	$\frac{1}{12}$ grain.
Red Sulphuret of Antimony	1 grain.
Extract of Cicuta *(Conium maculatum)*	2 grains.

Mix, and form into three-grain pills.

Dose.—Take one daily, either in the morning or at night.

Use.—This pill will be found a complete substitute for mercury. It is an alterative and diuretic, thus obviating defective secretion, and purifying the blood; it is particularly valuable in secondary symptoms of syphilis, and where there are ulcers in the throat.

21. GOLDEN PILL—NO. 2.

Take Chloride of Gold and Sodium *(Auri sodii chloridum)*	4 grains.
Dissolve in Water	q. s.
Extract of Aconite *(Aconitum napellus)*	½ scruple.
Extract of Bittersweet *(Solanum dulcamara)*	1 dram.
Marshmallow-root, pulverized *(Althæa officinalis)*	q. s.

Mix, and divide into eighty pills.

Dose.—One, three times a day.

Use.—Said to be very efficacious in venereal and skin diseases. GROTZNE

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22. GOLDEN PILL—NO. 3.

Take Chloride of Gold and Sodium *(Auri sodii chloridum)*	1 grain.
Extract of Mezereon *(Daphne mezereum)*	1 dram.

Mix, and form sixty pills.

Dose.—One pill a day may be given.

Use.—This is employed in cases similar to the above.

◆

23. COUGH-PILL.

Take Extract of Henbane *(Hyosciamus niger)*	1 ounce.
Canada Balsam *(Pinus balsamea)*	1 ounce.
Ipecac, or Lobelia *(Ipecacuanha—Lobelia inflata)*	1 ounce.
Extract of Balm-of-Gilead buds *(Populus balsamea)*	1 ounce.

Mix and incorporate well together, and add a few drops of the oil of anise: form int pills of the ordinary size.

Dose.—One or two, three or four times a day.

Use.—I endeavored for more than twenty-five years to obtain a medicine to fulfil th indications which are effected in this cough-pill, particularly for ordinary colds an coughs; and this admirably answers the intention, excelling all others. It allays the irritation of the mucous membrane, the bronchial tubes, and the lungs, and will be foun exceedingly valuable in deep-seated coughs and all diseases of the chest. The bad effect of opium (so much used in coughs) are in this pill entirely obviated, and it is altogethe better than the *Cough-Drops*, which I now dispense with.

◆

24. DIURETIC PILL.

Take Solidified Copaiba *(Copaifera officinalis)*	2 ounces.
Alcoholic Extract of Cubebs *(Piper cubeba)*	1 ounce.

Incorporate together, add a few drops of oil of juniper, and form into pills.

Dose.—One or two, three or four times a day.

Use.—This is equally valuable with the *Cough-Pill*. It invariably cures or afford relief in diseases of the kidneys or bladder. For chronic affections of the kidneys, bladder, and urethra, and also in gravel, gonorrhœa, gleet, and fluor-albus, it is superior to an similar preparation. A person some time ago handed me twenty dollars for a cure of on of the above complaints by the use of this pill alone. I employed it in several of thes diseases while I was in London, with the most immediate and lasting benefit.

◆

25. NERVOUS PILL.

Take Extract of Foreign Valerian *(Valeriana officinalis)*	2 ounces.
Henbane *(Hyosciamus niger)*	2 ounces.
Aconite *(Aconitum napellus)*	1 ounce.

Incorporate well together, add a few drops of essential oil, and form into three-grain pills.

Dose.—One or two may be taken every two or four hours.

Use.—In neuralgia and all painful and nervous affections. This constitutes one of the most efficient combinations in all our catalogue of formulas. I commenced the preparation of it in this country, and after much study completed it in London, since which I have used it extensively with the most marked success. The worst cases of idiopathic neuralgia yield to it like a charm, when given after evacuants. Indeed, I have cured all cases of this kind in which I have prescribed it. It has the effect of allaying irritability, without producing any disturbance of the system: instead of causing constipation, it acts rather as an aperient. A lady in London received so much benefit from its employment, that she persisted in calling it the "*Diamond Pill.*"

◆

26. FRANK'S PILL.

Take Aloes *(Aloe socotorina)*	4 ounces.
Jalap *(Convolvulus jalapa)*	4 ounces.
Rhubarb *(Rheum palmatum)*	1 ounce.
Sirup of Wormwood *(Artemisia absinthium)*	q. s.

Mix, and divide into three-grain pills.

Dose.—One to four, to be taken through the day.

Use.—These are the *Grains de Santé* so much employed as dinner-pills in Europe.

◆

27. COMPOUND COPAIBA-PILL.

Take Oil of Copaiba *(Copaifera officinalis)*	1 fl. dram.
Oil of Cubebs *(Piper cubeba)*	1 fl. dram.
Oil of Turpentine *(Pinus palustris)*	1 fl. dram.
Calcined Magnesia	2 drams.

Mix, and form sixty pills.

Dose.—One or two a day.

Use.—This has been recommended as an excellent preparation.

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28. BOLUS OF POMEGRANATE.

Take Bark of Pomegranate-root, powdered *(Punica granatum)*	1 dram.
Asafœtida *(Ferula asafœtida)*	½ dram.
Oil of Croton *(Croton tiglium)*	4 drops.
Sirup of Ether	q. s.

Mix, and form fifteen boluses.

Dose.—Administer five a day.

Use.—This pill is employed in the treatment of tænia.

◆

29. COMPOUND GALL-PILLS.

Take inspissated Ox-Gall *(Fel bovinum)*	1 ounce.
Gum-Ammonia *(Dorema ammoniacum)*	1 ounce.
Rhubarb, powdered *(Rheum palmatum)*	1 ounce.

Mix into mass, and form pills of two grains each.

Use.—In constipation, deficiency of bile, &c. It forms a good dinner-pill.

◆

30. CHALYBEATE OR TONIC PILL.

Take Vallette's Proto-carbonate of Iron	1 ounce.
Licorice-Powder	q. s.

Mix, and form into four-grain pills.

Dose.—One or two may be taken before each meal.

.—This probably forms the most efficient preparation in all cases where iron is ted, as in neuralgia, obstructed menses, weakness of the stomach and nerves, &c. favorite pill of Dr. Meigs, of Philadelphia, in female diseases.

◆

31. PILL FOR THE GRAVEL.

ake Carbonate of Soda *(Sodæ carbonas)*	2 drams.
Castile Soap	2 drams.
Oil of Juniper *(Juniperus communis)*	q. s.

a mass, and divide into sixty pills.

Dose.—Three pills three or four times a day.

◆

32. NARCOTIC PILL.

Take Extract of Stramonium *(Datura stramonium)*	2 grains.
Extract of Henbane *(Hyosciamus niger)*	6 grains.
Extract of Hops *(Humulus lupulus)*	½ dram.

Mix, and divide into twelve pills.

Dose.—Give one every four hours, or until the pain subsides.

Use.—In painful nervous affections, and in all forms of chronic disease attended with acute pain. NELIGAN.

PLASTERS.

PLASTERS, like *ointments*, have generally for their base an oily or fatty substance, but they are more solid and tough, and they adhere to the parts without melting. Some are composed of wax, resin, and oils; others are the product of a chemical combination between oleaginous substances and the metallic oxydes with which they are combined. Some are spread upon leather, and others upon linen.

"In making plasters," remarks Griffith, "in most cases it is necessary to operate at a temperature that will not volatilize or carbonize the ingredients; hence, a water-bath or steam heat is preferred. In the case of the 'burnt plaster' *(onguent de la mere)* of the French Codex, sufficient heat is employed to cause the fats to fume. Plasters should be made in metallic vessels, much larger than will contain the substances to be operated upon, as the mass increases in bulk by the action of heat causing an extrication of vapors. . . . . The ingredients should be thoroughly stirred together during the process of melting. When this operation is concluded, the plaster is to be removed, in small portions at a time, into a vessel constantly supplied with cold water; and, when sufficiently consistent, rolled into cylinders on a wet marble, and again placed in cold water to harden. To render plasters of a lighter color, they are kneaded and pulled under water; but this process should not be practised on compound plasters containing substances soluble in water; nor should these plasters be cooled in water, but suffered to chill on a marble slab until fit to be made into rolls, or put in tin boxes.

"Plasters are preserved by enveloping the rolls with paper, to exclude the air as much as possible. When kept for any length of time, they are apt to become hard and brittle, and to lose their color. When this is the case, they should be re-melted by a gentle heat, and sufficient oil added to restore their proper consistence."

1. FERRIS'S BLACK PLASTER.

Take white-oak bark *(Quercus alba)*, a proper quantity; bruise, and add urine sufficient to cover it. Let it stand two or three days, and then boil it till it becomes of the consistence of honey; to every five pounds add one pound of honey and one pound of strained turpentine-gum *(Pinus palustris)*. When the plaster is intended to be employed as an escharotic, add two drams of pulverized white vitriol *(Zinci sulphas)* to every ounce.

Use.—This forms a very valuable plaster for cancers, ulcers, or white swelling in a state of ulceration, and for the removal of spongy or fungous flesh. It excites but little pain or inflammation. It should be spread on linen or a soft piece of leather. This is the celebrated cancer-plaster of Dr. Ferris.

2. STRENGTHENING-PLASTER.

Take Hemlock-Gum *(Pinus canadensis)*.............................. q. s.

Dissolve and strain it.

Use.—This is an excellent strengthening and stimulating plaster. It is employed in chronic rheumatism, weakness in the back, &c.

3. BLISTERING-PLASTER.

Take Mutton-Suet	4 ounces.
Beeswax	4 ounces.
White Resin *(Pinus palustris)*	4 ounces.

Melt these articles together, and add one proportion of Spanish flies, pulverized.

4. ASTRINGENT PLASTER.

Take White-Oak bark *(Quercus alba)*.............................. q. s.

Macerate it in cold water for one day; then put it into a boiler, and evaporate until an extract is obtained.

Use.—This plaster is very useful in hernia; it is to be spread on a piece of soft leather and applied over the rupture, after which a truss must be worn.

5. ADHESIVE AND STRENGTHENING PLASTER.

Take White Resin *(Pinus palustris)*	3 pounds.
Beeswax	4 ounces.
Burgundy Pitch *(Pinus abies)*	4 ounces.
Mutton-Tallow	4 ounces.

Melt these together, and then add—

Olive-Oil *(Olea europæa)*	½ ounce.
Camphor *(Laurus camphora)*	½ ounce.
West-India Rum	1 gill.
Sassafras-Oil *(Laurus sassafras)*	½ ounce.

When the latter articles have been incorporated with the former, let the whole be poured into a vessel of water, and kneaded with the hands until it is cold. In certain seasons and climates, a little addition of resin or of olive-oil is required to render it of the proper consistence.

Use.—This elegant preparation is employed as a sticking-plaster, and also in rheumatism. It is likewise useful in cuts, ulcers, &c.

6. COMMON STRENGTHENING-PLASTER, CALLED "SEAR-CLOTH PLASTER."

Take Yellow Resin *(Pinus palustris)*	1 pound.
Beeswax	4 ounces.
Cayenne Pepper *(Capsicum baccatum)*	4 ounces.
Spirits	1 quart.

ner the pepper (enclosed in a linen bag) in the spirits, and strain. Melt the other es together, and add the tincture; then simmer till the spirits are nearly evaporated. ove it from the fire, and when nearly cold add—

Gum-Camphor *(Laurus camphora)*	2 ounces.
Oil of Sassafras *(Laurus sassafras)*	3 drams.

e.—This article may be employed whenever a strengthening-plaster is wanted. I m or never fails to afford relief.

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7. BONE'S SEAR-CLOTH PLASTER.

Take Turpentine *(Pinus palustris)*, melted and strained	4 ounces.
Resin	q. s.
Mutton-Tallow	q. s.
Vinegar	q. s.

Use.—This plaster is employed for the same purposes as the preceding.

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8. DISCUTIENT AND CANCER PLASTER.

Take Extract of Henbane *(Hyosciamus niger)*	1 ounce.
Extract of Cicuta *(Conium maculatum)*	1 ounce.
Iodide of Lead *(Plumbi iodidum)*	½ ounce.

Warm the extracts; then add the lead, and incorporate well together. Spread it on a small piece of leather and apply it to the parts, occasionally renewing it.

Use.—This plaster is valuable for discussing tumors on the breasts and other parts of females, and also for cancerous ulcers. Dr. Rogers, a surgeon of the New York Hospital, says he has cut out a bushel of cancerous tumors of the breast, and is convinced that the operation is useless, and that the above plaster is the best application for this affection.

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9. IRRITATING PLASTER.

Take of good thick Tar *(Pinus palustris)*	1 pound.
Gum-Turpentine *(Pinus palustris)*	½ pound.
Burgundy Pitch *(Pinus abies)*	½ pound.
Beeswax	½ pound.

Melt, strain, and boil a few minutes; then remove from the fire, and, as it cools, stir in the following articles, finely pulverized, mixed, and sifted, viz.: three ounces each of Poke-root, Mandrake, Blood-root, and Indian Turnip. Stir it occasionally till the whole mass is well incorporated.

Directions.—Spread on a piece of soft leather, and place over the part affected. Keep it on as long as it can be borne, then remove, and put it on again in a day or two. If the itching proves too troublesome, occasionally remove the plaster, and wash the parts with spirits.

Use.—This plaster brings out pustules or eruptions like those of the small-pox, and causes a discharge of matter. It appears superior to M'Nair's and all other plasters. I should recommend those who have obstinate ulcers to apply the *Irritating Plaster*.

"LONDON, August, 1861

"An extensive use of this plaster still further confirms its great value in many diseases. A person in Cincinnati states, in a work he has lately published on surgery, that my former method of preparing it is preferable to the present or the one laid down. But this is not the fact. The present method is a most *decided improvement*. When this plaster was prepared with tar only, it soon became dry and hard, and it occasionally did not irritate. Prepared according to the directions here laid down, it is quite the reverse. I have just been examining some which I had prepared by a chemist when I was in London before, two or three years since. It is of the very best consistence, and acts admirably.

"W. BEACH, M. D."

POULTICES.

POULTICES, or *cataplasms*, are external applications, of a soft or pulpy consistence, and somewhat tenacious. They are of various kinds: some are designed for discutients, others to produce suppuration; some are refrigerent or cooling, while others are stimulating; others, again, are emollient. In general, poultices are best applied warm or tepid, and they should not be suffered to get dry before they are renewed.

"As warmth and moisture," says Griffith, "are the principal effects of emollient poultices, an excellent substitute for them is lint, dipped in warm water, and laid over the diseased part; the lint should be covered with a towel, in order to prevent evaporation. This mode is much neater and more cleanly than any poultice, and where merely warmth and moisture are required, it will answer purposes intended. A peculiar fabric, called *spongio-piline*, consisting principally of sponge, has lately been invented in England, which is said to answer very well, when properly embued with hot water, as a substitute for the simple emollient poultice.

"The addition of a little lard is useful, if the poultice does not require to be frequently changed. When the object, however, is to promote suppuration, the poultice should be frequently renewed, in which case the addition of the lard is unnecessary. They should never be heavy, nor very bulky, but they should be frequently repeated."

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1. LINSEED-POULTICE.

Take Linseed, powdered *(Lini usitatissimum)*	4 ounces.
Hot Water	½ pint.

Gradually sprinkle the powder into the water, and stir them together with a spoon; let it boil for a short time.

Use.—This is a good and convenient emollient poultice for many cases. It is preferable to the bread-and-milk poultice so much in use, and is not so liable to become brittle and hard when dry. It is very useful in carbuncle, obstinate inflammation, &c., and is the poultice universally employed in the hospitals of Paris.

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2. COMMON OR ULMUS POULTICE.

Take Slippery-Elm bark *(Ulmus fulva)*	q. s.

Pulverize, and stir it in hot milk or water, to the consistence of a poultice.

Use.—This poultice exceeds every other in point of efficacy. It is of almost universal application, and removes inflammation sooner than any other. Compared to this, for general use, every other poultice dwindles into insignificance.

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3. ALKALINE POULTICE.

Take Ley, rather weak	q. s.
Slippery-Elm bark *(Ulmus fulva)*	q. s.

Warm the ley, and stir in the bark until it is of the proper consistence.

Use.—This poultice is useful in inflammation of the breast and other parts; also in felons, white swellings, lockjaw, wounds, fistulas, &c.

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4. POTATO-POULTICE.

Take Common Potato, boiled and mashed soft	q. s.
Slippery-Elm bark *(Ulmus fulva)*	q. s.

Mix, and form a poultice.

Use.—This article has been employed with success in cases of ophthalmia of an acute character, when other remedies have failed.

5. CARROT-POULTICE—NO. 1.

Take Garden Carrots, boiled and bruised *(Daucus carota)*	1 pound.
Flour	1 ounce.
Butter	½ ounce.

6. CARROT-POULTICE—NO. 2.

Take Garden-Carrot roots *(Daucus carota)*	1 pound.

Wash them clean, scrape them down to a pulp, and apply.

Use.—These will be found valuable applications to ulcerated sores and swellings, scrofulous sores of an irritable kind, and many other inveterate ulcers, and particularly inflamed buboes.

7. MUSTARD-CATAPLASM.

Take Mustard, in powder *(Sinapis nigra)*	4 ounces.
Soft Bread, or Indian Meal	6 ounces.
Vinegar	q. s.

Mix, and make into a cataplasm.

Use.—This is found to be a good application to the soles of the feet in cases of rheumatism, gout, inflammatory diseases, fevers, &c.

8. INDIAN-TURNIP POULTICE.

Take Indian-Turnip tops and roots *(Arum triphyllum)*, if green; if dry, the roots only	q. s.
Slippery-Elm bark *(Ulmus fulva)*	q. s.

Simmer the first in water, and add sufficient bark to form the proper consistence.

Use.—This poultice is used with the best effect in the treatment of scrofula. I think it a good preparation in scrofulous swellings and inflammation.

9. CICUTA-POULTICE.

Take Cicuta-plant, green or dry *(Conium maculatum)*	q. s.
Slippery-Elm bark *(Ulmus fulva)*	q. s.

Boil the cicuta in milk-and-water until it is very soft, and then add a very small quantity of the bark, to make it adhere; apply it blood-warm.

Use.—It is excellent to produce suppuration, especially in those swellings where the glands are indurated; also useful in cancers, inflamed breasts, testicles, &c.

10. FERRIS'S POULTICE.

Take Garden Carrots, scraped *(Daucus carota)*	q. s.
Decoction of Spikenard-root *(Aralia racemosa)*	q. s.
Indian Meal	q. s.

Mix, and form into a poultice.

Use.—The late Dr. Ferris was in the habit of employing this poultice in cases of inflammation bordering on gangrene or mortification.

11. WILLOW-POULTICE.

Take bark of Pussy-Willow root, pulverized *(Salix discolor)*	q. s.
Cream	q. s.

Mix, and make a poultice.

Use.—This is the common poultice of the celebrated Dr. Bone, of New Jersey, who has acquired a great reputation for the successful treatment of inflammation and ulcers. I have used it with great effect in erysipetalous inflammation, where other means failed.

12. YEAST-POULTICE.

Take Milk, blood-warm	1 pint.
Yeast, or Beer-grounds	1 gill.
Slippery-Elm bark *(Ulmus fulva)*	q. s.

Mix together, and form a poultice.

Use.—This is a good antiseptic and refrigerant poultice. Applied to gangrenous ulcers, it is exceedingly efficacious, and, when combined with proper auxiliaries, arrests mortification. It is also very serviceable in other species of inflammation, and in ulcers emitting a fetid effluvium.

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13. LOBELIA-POULTICE.

Take Lobelia, in powder *(Lobelia inflata)*	4 ounces.
Slippery-Elm bark *(Ulmus fulva)*	4 ounces.
Ginger *(Amomum zingiber)*	4 ounces.
Whisky, or other Spirits	q. s.

Mix, and make into a poultice.

Use.—This poultice is beneficial in removing inflammations in painful diseases, such as pleurisy, inflammatory rheumatism, &c. It has been used with marked success.

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14. TOBACCO-CATAPLASM.

Take fine Tobacco *(Nicotiana tabacum)*	1 ounce.
Water	q. s.

Beat the tobacco up with the water, to form a cataplasm.

Use.—To be applied to the throat in cramp, spasm of the glottis, &c.

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15. SAL-AMMONIAC CATAPLASM.

Take Sal-Ammoniac *(Ammoniæ murias)*	½ ounce.
Henbane-leaves *(Hyosciamus niger)*	½ ounce.
Flaxseed-Meal *(Lini usitatissimum)*	1½ ounces.
Boiling Water	q. s.

Mix these together, and form a cataplasm.

Use.—Recommended in cases of engorgement of milk in the breasts.

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16. NARCOTIC POULTICE.

Take Oil of Cicuta *(Conium maculatum)*	1½ drams.
Laudanum *(Papaver somniferum)*	1 teaspoonful.
Flaxseed, pulverized *(Lini usitatissimum)*	q. s.

Mix, and with warm water form a large poultice.

Use.—This is an admirable poultice in painful glandular enlargements.

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17. BRAN-POULTICE.

Take Wheat-Bran	q. s.
Cider or Wine Vinegar	q. s.

Mix, and make a poultice.

Use.—This makes one of the very best poultices in inflammatory rheumatism, gout &c., and for other inflamed and painful parts. I have never yet known it to fail of affording immediate and permanent relief. Yesterday (April 30, 1850) a patient reported to me the extraordinary relief from great pain of a swelled foot, by the use of this poultice. In some cases it is superior to that made from slippery-elm.

18. BREAD-POULTICE.

Take Wheat-Bread, stale	q. s.
Milk or Water	q. s.

the bread a short time in the milk or water, and apply.

e.—This is an excellent poultice in general inflammations, and particularly in dif- t kinds of ophthalmia.

POWDERS.

WDERS are the most similar and natural form in which medicine can be given, as virtues are not impaired by passing through any particular process; but when it is sary to administer a large quantity of any article, it can not be conveniently taken Powders are either simple or compound. In the preparation of compound he following rules:—

nce is to be pulverized separately, and the quantity ordered in the pre- ghed off; otherwise, the due proportions will not be maintained.

stances with those which are the reverse, which will thus serve

3. e substances through the same sieve, as this will render them more homogeneous, and will also prevent unnecessary loss.

All powders should be put into closely-stopped glass vessels, and kept from the light; otherwise their virtues may be impaired. They may be administered in molasses, honey, sirup, tea, or any other suitable vehicle.

1. SNUFF-POWDER.

Take High Laurel *(Kalmia latifolia)*	10 pounds.
Sassafras *(Laurus sassafras)*	1 pound.
Blood-root *(Sanguinaria canadensis)*	1 ounce.

Pulverize, and mix well.

Use.—This preparation is good for catarrh, obstructions of the head, &c.

2. CATHARTIC OR ANTI-BILIOUS POWDER—COMMON PURGATIVE.

Take Jalap *(Ipomea jalapa)*	1 pound.
Alexandria Senna *(Cassia acutifolia, &c.)*	2 pounds.
Cloves, pulverized *(Eugenia caryophyllata)*	2 ounces.

Let these articles be separately pulverized; then mix them and pass through a fine sieve.

Dose.—A teaspoonful (two scruples). It should be put into a teacup, with a lump of loaf-sugar and a gill of hot, warm, or cold water added, and given to the patient fasting, or on an empty stomach.

Use.—This forms the best general purgative that is now known. It combines power with mildness of action, and operates throughout the entire length of the alimentary canal, cleansing it and producing a healthy action. It may be given to either sex in all ages. It removes offensive accumulations in the bowels, without causing subsequent constipation; it stimulates every contiguous organ to a healthy state. In bilious and febrile diseases it is invaluable, and is useful in all diseases where physic is required.

3. COMMON EMETIC-POWDER.

Take Ipecacuanha *(Cephaëlis ipecacuanha)*	4 ounces.
Lobelia *(Lobelia inflata)*	4 ounces.
Blood-root *(Sanguinaria canadensis)*	2 ounces.

Pulverize separately, and mix thoroughly.

Dose.—A scruple, or half a teaspoonful, given every twenty minutes till it operates, and after having drank freely of some kind of herb-drink. It should generally be administered in warm boneset or chamomile-flower tea. If the first or second potions are rejected, continue to give it till vomiting takes place. During its operation, drink freely of herb-tea or warm water.

Use.—This emetic is perhaps unsurpassed by any other for efficacy of action. It is administered in all those cases where an emetic is indicated; and, from its extensive effects upon the system, is very efficacious in breaking up morbid associations, or exciting a healthy action of the system. It is useful in febrile and other diseases, and excellent in croup, chronic affections of the liver, stomach, and intestines.

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4. BONE'S EMETIC AND CATHARTIC POWDER.

Take ipecacuanha (*Cephaëlis ipecacuanha*)	½ dram.

Dose.—To be be given in molasses.

Use.—This is excellent in dropsy, obstruction of the menses, jaundice, &c. It is likewise a good hydragogue cathartic.

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5. ANODYNE POWDER.

Take Turkey Opium (*Papaver somniferum*)	½ ounce.
Cayenne Pepper (*Capsicum baccatum*)	1 ounce.

The opium should be previously put into a bag, and suspended in a chimney, until it has become hard or dry; then pulverize and sift it, and mix with the capsicum, rubbing them well together in a mortar.

Dose.—Four grains may be administered, and repeated as occasion requires.

Use.—This powder forms a valuable remedy in cramps and acute pains.

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6. EMMENAGOGUE, BLACK, OR TONIC POWDER.

Take Flowers of Sulphur (*Sulphur sublimatum*)	4 ounces.
Gum-Myrrh (*Balsamodendron myrrha*)	4 ounces.
Steel Filings	4 ounces.
White Sugar (*Saccharum albà*)	4 ounces.
Wine	1 quart.

Mix together, and simmer till nearly dry; then remove from the fire, and, when cold, pulverize and bottle it for use.

Dose.—Half a teaspoonful three times a day, to be taken in molasses; or the same quantity may be taken in the form of pills.

Use.—This forms an excellent preparation for the treatment of obstructed menses, when that complaint is an idiopathic or primary disease.

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7. DIAPHORETIC POWDER—NO. 1.

Take Gum-Opium, pulverized (*Papaver somniferum*)	½ dram.
Camphor (*Laurus camphora*)	2 drams.
Ipecacuanha, pulverized (*Cephaëlis ipecacuanha*)	1 dram.
Cream of Tartar (*Potassæ bitartras*)	1 ounce.

Pulverize each article separately, and then mix.

Dose.—Ten grains, as often as may be necessary.

Use.—This forms a valuable anodyne, diaphoretic, and sudorific. It is beneficially administered in fever, diarrhœa, dysentery, and cholera-morbus, and in all cases where an anodyne combined with a sudorific is required. In these diseases it should be administered in small doses. It is also applicable to many other affections, such as rheumatism, gout, &c. It promotes perspiration, without increasing the [illegible] [illegible] a constant moisture of the skin for a great length of time, while it allays irritation; and is particularly valuable in uterine and other hemorrhages.

8. DIAPHORETIC POWDER—NO. 2.

This powder is composed of the same ingredients as the preceding, with the exceptio that the extract of henbane is substituted for opium, and in some cases may be preferabl

9. FEVER-AND-AGUE POWDER—NO. 1.

Take Sulphate of Quinine (*Quiniæ sulphas*)	1 scruple.
Cayenne Pepper (*Capsicum baccatum*)	2 scruples.

Mix, rub well in a mortar, and divide into ten powders.

Dose.—Give one powder in sirup every two hours, after having cleansed the stomac and bowels.

Use.—This is a sure remedy for chills and fever, and excellent where the *Vegetabl Wine Tincture* can not be taken. After the chills are broken, the tincture may be administered, which prevents a relapse.

10. FEVER-AND-AGUE POWDER—NO. 2.

Take Salicin (*Salix alba*)	2 scruples.
Cayenne Pepper (*Capsicum baccatum*)	1 dram.

Mix, and divide into twelve equal parts.

Dose.—One of the powders every four hours, in the intervals of the paroxysms. It may be taken in sirup or any other convenient vehicle.

Use.—This is an excellent substitute for the sulphate of quinine.

11. RED OR STYPTIC POWDERS.

Take Copperas (*Ferri sulphas*)	6 ounces.

Submit it to a red heat in a flame: a decomposition is thus effected, and a red substance formed. This, when pulverized, forms a powder, containing highly astringent properties.

Use.—It is employed in the treatment of piles, and in hemorrhage. It may be mixed with a little melted tallow, and introduced up the rectum, for the bleeding piles. One dram of this, to an ounce of unsalted butter, makes an excellent application for obstinate psoriasis or tetter.

12. HULL'S BILIOUS PHYSIC.

Take Aloes (*Aloe socotorina*)	8 ounces.
Gum-Myrrh (*Balsamodendron myrrha*)	1 ounce.
Cinnamon (*Laurus cinnamomum*)	1 ounce.
Cloves (*Eugenia caryophyllata*)	1 ounce.
Ginger (*Amomum zingiber*)	1 ounce.
Saffron (*Crocus officinalis*)	1 ounce.

Pulverize fine, and mix.

Dose.—A teaspoonful every hour until it operates.

Use.—This preparation is celebrated as a remedy in the treatment of bilious colic.

13. CEPHALIC SNUFF.

Take Blood-root (*Sanguinaria canadensis*)	1 ounce.
Bayberry-root bark (*Myrica cerifera*)	1 ounce.
Common Snuff (*Nicotiana tabacum*)	1 ounce.

Mix. Calomel has sometimes been added in cases of polypus.

Use.—This snuff is beneficial in catarrh, headache, polypus, &c.

14. HENRY'S CEPHALIC SNUFF.

Take Daisy-root	1 ounce.
Yarrow-root (*Achillea millefolium*)	1 ounce.
White-Hellebore root (*Veratrum album*)	1 ounce.
Coltsfoot-leaves (*Tussilago farfara*)	1 ounce.
Bayberry-bark (*Myrica cerifera*)	1 ounce.

Pulverize finely, and sift through gauze; mix the powders well together in a mortar, and drop in it one dram of the essence of bergamot. Keep it for use in a closely-corked bottle.

Use.—A small pinch of this snuff may be taken at bedtime, as a cure for vertigo, "megrims," obstructions from catarrh, &c.; and I have found it effectual in relieving headache.

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15. COMPOUND POWDER OF MANDRAKE.

Take Mandrake (*Podophyllum peltatum*)	1 ounce.
Spearmint (*Mentha viridis*)	1 ounce.
Cream of Tartar (*Potassæ bitartras*)	1 ounce.

Pulverize separately, and mix.

Dose.—A teaspoonful, given in tea or sirup.

Use.—This is beneficial in diseases of the liver, dyspepsia, obstructed menses, dropsy, in venereal affections, and every taint of the system. I was recently called to visit a young lady, whose menses had been obstructed for many months, attended with dizziness and pain in the head, enormous swelling of the abdomen, &c. The exhibition of the above medicine (mandrake alone), every other morning, with two or three pills of gum-turpentine, restored the menstrual discharge, and removed the symptoms.

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16. FOR HOOPING-COUGH.

Take Licorice-root, pulverized (*Glycyrrhiza glabra*)	1 dram.
Belladonna-root, pulverized (*Atropa belladonna*)	1 scruple.

Mix, and divide into ninety-six equal parts, that each powder may contain one fourth of a grain of belladonna.

Dose.—One powder in the morning and one in the evening, for children under one year; three powders a day for children under two years; four powders for children between three and four years; six powders for children from four to six years old.

LOBSTEIN.

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17. FOR ANASARCA.

Take Foxglove (*Digitalis purpurea*)	10 grains.
Squills (*Scilla maritima*)	2 scruples.
Nitrate of Potash (*Potassæ nitras*)	1 dram.

Pulverize each separately, mix, and form into a powder; divide into twelve equal parts.

Dose.—From three to four powders a day.

Use.—Recommended for anasarca and dropsy in the chest. LOBSTEIN.

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18. POWDER TO RE-ESTABLISH MILK.

Take Cocoa-bean, roasted (*Theobroma cacao*)	½ ounce.
Anise-seed (*Pimpinella anisum*)	½ ounce.
Fennel-seed (*Fœniculum vulgare*)	½ ounce.

Make a powder of each of the articles, and mix.

Dose.—From five to six teaspoonfuls may be given a day. LOBSTEIN.

19. FOR THE HEARTBURN.

Take Quassia, pulverized *(Quassia excelsa)*	½ scruple.
Rhubarb *(Rheum palmatum)*	½ scruple.
Calcined Magnesia	1 scruple.

Mix, form a powder, and divide it into twelve equal parts.

Dose.—Three powders a day. Lobstein.

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20. THOMSON'S "WOMAN'S FRIEND."

Take Poplar-bark *(Populus balsamifera)*	5 pounds.
Unicorn *(Aletris ferinosa)*	½ pound.
Cinnamon *(Laurus cinnamomum)*	½ pound.
Golden Seal *(Hydrastis canadensis)*	½ pound.
Cloves *(Eugenia caryophyllata)*	½ pound.
Cayenne Pepper *(Capsicum baccatum)*	4 ounces.
White Sugar *(Saccharum alba)*	8 pounds.

Let them all be made fine and well mixed.

Dose.—A teaspoonful may be taken in a gill of hot water.

Use.—This is an excellent article in female weaknesses, to prevent abortion, and be used at the cessation of the menses. Samuel Thomson.

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21. THOMSON'S COMPOSITION POWDERS.

FIRST PREPARATION.

Take Bayberry *(Myrica cerifera)*	2 pounds.
Ginger *(Amomum zingiber)*	1 pound.
Cayenne Pepper *(Capsicum baccatum)*	2 ounces.
Cloves *(Eugenia caryophyllata)*	2 ounces.

Pulverize finely, and mix well.

SECOND PREPARATION.

Take Bayberry *(Myrica cerifera)*	1 pound.
Ginger *(Amomum zingiber)*	1 pound.
Poplar-bark *(Populus balsamifera)*	1 pound.
Hemlock-bark *(Pinus canadensis)*	1 pound.
Red or White Oak bark *(Quercus rubra—Quercus alba)*	½ pound.
Cayenne Pepper *(Capsicum baccatum)*	3 ounces.
Cloves *(Eugenia caryophyllata)*	2 ounces.

Pulverize, and mix well.

THIRD PREPARATION.

Take Bayberry *(Myrica cerifera)*	2 pounds.
Ginger *(Amomum zingiber)*	2 pounds.
Poplar-bark *(Populus balsamifera)*	1 pound.
White-Oak bark *(Quercus alba)*	1 pound.
Cayenne Pepper *(Capsicum baccatum)*	3 ounces.
Cloves *(Eugenia caryophyllata)*	2 ounces.

Pulverize, and mix well.

Dose.—A teaspoonful in a cup of hot water, sweetened.

Use.—Let either of these compounds be taken for canker, and to promote perspiration, the patient being shielded from the air. This is for the first stages and less violent attacks of disease. It is a valuable medicine, and may be safely employed in all cases. It is good for relax, pain in the stomach and bowels, and to remove all obstructions caused by cold. A few doses of this, the patient being in bed, with a steaming-stone at the feet, will cure a bad cold, and usually throw off disease in its first stages. Samuel Thomson.

22. FOR HOOPING-COUGH AND NERVOUS CATARRH.

Take White Sugar (*Saccharum alba*)	1 dram.
Belladonna-root, pulverized (*Atropa belladonna*)	3 grains.

Mix, make a powder, and divide into twelve equal parts.

Dose.—One powder a day. LOBSTEIN.

◆

23. FOR THE ASTHMA.

Take Cicuta-leaves, pulverized (*Conium maculatum*)	1 dram.
Flowers of Sulphur (*Sulphur sublimatum*)	5 drams.
Extract of Licorice, pulverized (*Glycyrrhiza glabra*)	6 drams.

Mix, and form the whole into a powder.

Dose.—A teaspoonful three times a day. LOBSTEIN.

◆

24. FOR CHRONIC DIARRHŒA.

Take Prepared Chalk (*Creta præparata*)	½ ounce.
Columbo-root, pulverized (*Cocculus palmatus*)	2 drams.
Turkey Opium, pulverized (*Papaver somniferum*)	5 to 8 grains.

Mix, and make into a powder.

Dose.—A teaspoonful may be administered every two hours.

◆

25. LOBSTEIN'S FEVER-POWDER.

Take Gum-Camphor (*Laruus camphora*)	1 grain.
White Sugar (*Saccharum alba*)	10 grains.

Mix, and divide into twelve powders.

Dose.—One powder every three hours.

Use.—Given in cases where the tongue is very much parched.

◆

26. COMPOUND POWDER OF JALAP.

Take Jalap, pulverized (*Ipomea jalapa*)	2 ounces.
Cream of Tartar (*Potassæ bitartras*)	2 drams.

Mix, and divide into six powders.

Dose.—One powder every two hours.

Use.—This powder constitutes an excellent hydragogue purgative.

◆

27. POWDER OF ROASTED RHUBARB.

Take Rhubarb, coarsely powdered (*Rheum palmatum*)	q. s.

Place it in a shallow iron dish; heat regularly, so as to scorch the powder, which should be constantly stirred, that the influence of the heat may be uniform throughout: when the color has changed to brown, the process is to be stopped, and the rhubarb reduced to fine powder for use.

Dose.—From five to ten grains.

Use.—This preparation forms a useful astringent in diarrhœa.

◆

28. COMPOUND SULPHUR-POWDER.

Take Flowers of Sulphur (*Sulphur sublimatum*)	½ ounce.
Cream of Tartar (*Potassæ bitartras*)	1 ounce.

Mix with molasses.

Dose.—A teaspoonful four or five times a day, for children.

Use.—This powder is employed in piles, and in cutaneous affections and eruptions.

29. STIMULATING POWDER.

Take Iodide of Gold *(Auri iodidum)*	1 grain.
Gum-Arabic, pulverized *(Acacia vera)*	30 grains.

Incorporate well, and divide into fifteen equal parts.

Dose.—Give one powder three times a day.

Use.—This is employed in secondary syphilitic affections. The dose should be gr ually increased to one tenth of a grain. NELIGAN

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30. WHEAT-POWDER.

Take Wheat-Flour	q. s.

Put it into a pepper-box, and sprinkle it upon the parts two or three times a day.

Use.—For inflamed and irritable surfaces, particularly burns. Dr. Reese, of t Bellevue Hospital, states that of the various applications for every kind of burns a scalds, this excels them all. He has been in the habit of using it for years, with remar able success; after applying it for a few days, he adds linseed-oil combined with lim water. This is no doubt a very good application also to ulcers emitting an acrid discharg as in cancer; also in erysipelas, &c. Would not the ulmus-powder be still better?

◆

31. MEDICAL OR ROOT-BEER POWDER.

Take Sassafras-root *(Laurus sassafras)*	4 ounces.
Burdock *(Arctium lappa)*	4 ounces.
Spice-wood *(Benzoin odoriferum)*	4 ounces.
Spruce-bark *(Pinus nigra)*	4 ounces.
Hops *(Humulus lupulus)*	1 ounce.
Ginger *(Amomum zingiber)*	1 ounce.
Water	3 gallons.

Boil for two hours, strain, and add half a gallon of cold water; when blood-warm, ad one pint of good yeast, and let it ferment for six hours: strain, and bottle for use.

Dose.—To be taken freely.

Use.—This forms an excellent cool drink for purifying the blood.

◆

32. ANOTHER BEER-POWDER.

Take Hops *(Humulus lupulus)*	1½ ounces.

Boil in six quarts of water for two hours; strain, and add two quarts of water, and one and a half pounds of malt; then stir, and let it stand till blood-warm; then add one pint of yeast, and let it ferment for six hours. Strain off the malt, and it is ready for use. This will make two gallons.

Dose.—This is to be drunk freely.

Use.—A good and wholesome beverage, and for purifying the blood.

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33. BURNT-SPONGE POWDER.

Take Common Sponge, cut fine *(Spongia officinalis)*	1 ounce.
Bayberry *(Myrica cerifera)*	1 ounce.
White Sugar *(Saccharum alba)*	1 ounce.

Mix, put into a crucible, and cover with plaster of Paris, leaving an aperture for the escape of the steam; put it in the fire, cover with coals, and let it remain for half an hour; then take it out and pulverize. Keep it in a close vial.

Use.—This makes a very good powder for chancres, to be applied once or twice a day. CLARK.

34. POWDER OF IPECAC.

Take Ipecacuanha *(Cephaëlis ipecacuanha)*	1 grain.
White Sugar *(Saccharum alba)*	2 drams.

Make a powder, to be divided into eight equal parts.

Dose.—One every quarter of an hour.

Use.—This powder is beneficial in fevers and other diseases. HUFELAND.

SALVES.

SALVES are medicines of proper consistence for spreading on linen or muslin, designed for external use, for burns, ulcers, &c. They are formed by uniting wax, resin, or oil, with some remedial agent, either vegetable or some of the metallic oxydes, such as red lead. They require to be made of a little harder consistence for summer than winter, which may be done by adding or diminishing the quantity of oil used. Salves designed for ulcers should be renewed about twice a day.

1. BLACK PLASTER, OR HEALING-SALVE.

Take Olive-Oil *(Olea europæa)*	3 quarts.
Common Resin *(Pinus palustris)*	3 ounces.
Beeswax	3 ounces.

Melt these articles together, and raise the oil nearly to the boiling point; then gradually add of pulverized red lead two and a quarter pounds, if it be in the winter; if in the summer, two and a half pounds. In a short time after the lead is taken up by the oil, and the mixture becomes brown or of a shining black, remove from the fire, and when nearly cold add half an ounce of pulverized camphor. It should remain on the fire until it forms a proper consistence for spreading, which may be known by dipping a spatula or knife into it from time to time, and suffering it to cool.

Use.—We have found this elegant salve superior to every other, where applications of this kind are required. It has an excellent effect in burns, and in scrofulous, fistulous, and all other ulcers. It should be thinly spread on a piece of linen, and renewed once or twice a day.

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2. CICUTA-SALVE.

Take Extract of Cicuta *(Conium maculatum)*	2 ounces.
Iodide of Lead *(Plumbi iodidum)*	½ ounce.

Incorporate well together; spread on leather or muslin, and apply night and morning.

Use.—For scrofula, &c. In walking the wards of one of the Paris hospitals, I noticed a young lady nearly cured of scrofula in the neck; and on inquiry, I learned that she was using this preparation.

◆

3. BONE'S YELLOW SALVE.

Take Wild-Indigo roots *(Baptisia tinctoria)*	1 bushel.

Boil till the strength is extracted; strain, boil, and skin; then add—

Unsalted Butter	10 pounds.
Beeswax	3 pounds.
Mutton-Tallow	1½ pounds.

Then boil the water out, and strain till clear.

Use.—This salve was employed by the late Dr. Bone for all kinds of ulcers. It is cleansing, detergent, discutient, &c. It generally agrees with and benefits every species of ulcer.

4. GREEN SALVE.

Take Turpentine *(Pinus palustris)*	½ pound.
Bayberry-Tallow *(Myrica cerifera)*	½ pound.

Dissolve together, and form into a salve; add olive-oil, if necessary.

Use.—This salve is designed for scrofulous ulcers.

SINAPISMS.

SINAPISMS, and other stimulating draughts, are employed with the same intention the common blister, to produce counter-irritation, and they often give relief very speedi in internal pains and inflammation. Mustard poultices or plasters act much more quick than blisters, and they are free from the inconvenience and distress which arise fr them. Sinapisms should be applied sufficiently strong to produce a little pain, or redden the skin; after which they may be removed, and reapplied near the original plac They are excellent to relieve pain and inflammation of the head in febrile and other di eases, and are useful to equalize the circulation in very many complaints. For ma years I have substituted mustard-plasters for blisters, with better effects.

"In delicate, sensitive people," says Griffith, "the sinapism need not remain appli above six or eight minutes, as the effect continues some time after its removal. If remain too long on, gangrene may supervene: this can not happen unless the invalid insensible, as too much pain is felt to permit the lengthened application of a sinapisn but, in cases of stupor or insensibility, or in low fevers, a sinapism, if left on longer th an hour, may cause both vesication and gangrene. If the redness only is required, t pain may be moderated by mixing with the paste a dram of tincture of opium, or tw drams of tincture of henbane, neither of which, although they allay the pain, diminish the rubefacient activity of the sinapism."

1. MUSTARD-SINAPISM.

Take Mustard *(Sinapis nigra)*	q. s.
Rye, Indian, or Oat Meal	q. s.
Vinegar	q. s.

Mix, and form it into a proper consistence.

Use.—This plaster answers all the purposes of a blister, without its being attend with any of the distressing effects which generally result from the application of the la ter. They should be made sufficiently strong to redden but not to break the skin, ar may be very often changed from place to place with good effect. They are very ben ficial, applied to the feet, in causing revulsion, or to equalize the circulation; hence the are useful in fevers, inflammation, &c. In severe cases, the pure mustard with vineg may be applied.

2. GARLIC AND ONION SINAPISM.

Take Garlics or Onions, raw *(Allium sativum—Allium cepa)*	q. s.

Bruise well, and apply.

Use.—This is useful in the same diseases as the preceding, in inflammation of th lungs, &c.

3. POKE-SINAPISM.

Take Poke-root *(Phytolacca decandria)*	q. s.

Scrape it fine, and apply in the raw state, or it may be previously simmered in vineg for a short time.

Use.—A good revulsive, applied to the soles of the feet and other parts, to relieve pai

SIRUPS.

SIRUPS are liquids containing the properties of certain vegetables in a very concentrated state. They are prepared by simmering the ingredients until their strength is extracted, and much of the watery portion evaporated; then adding a sufficient quantity of clarified sugar to prevent fermentation. Nothing should be added to clarify the sirup, as this may remove the extractive or active properties.

In consequence of the oleaginous and other peculiar properties of all or most vegetables, water is not sufficient to extract their virtues, and it is necessary to use spirits. The two menstruums combined answer this purpose admirably. After the alcohol has extracted the component parts of the plants or roots, it is evaporated by simmering, when no danger need be apprehended from its stimulating effects. Sirup is an excellent form in which to administer many kinds of medicine.

"Sirups, especially those containing the juice of fruit," remarks Griffith, "should be bottled while hot, and, when cold, well stopped and sealed; and these, as well as all other kinds, should be kept in a temperature not exceeding 60° Fahr. Various plans have been devised to preserve sirups, but the best is to prepare them only in such quantities as will be used within a short time. The addition of chlorate of potassa, as advised by Macculloch, and of sugar of milk, as advised by Chereau, has proved useful; but the best mode is that of Mr. Durand, viz., adding about one dram of Hoffmann's anodyne to each pint of sirup: this appears to have the property of arresting or preventing any tendency to fermentation."

1. ALTERATIVE SIRUP.

Take	Honduras or Jamaica Sarsaparilla, sliced *(Smilax Sarsaparilla)*	6 pounds.
	Guaiac-wood, rasped *(Guaiacum officinale)*	3 pounds.
	Sassafras-bark *(Laurus sassafras)*	2 pounds.
	Elder-flowers *(Sambucus canadensis)*	2 pounds.
	Burdock root or seed *(Arctium lappa)*	3 pounds.
	Yellow Dock, bruised *(Rumex crispus)*	3 pounds.

To the above articles add diluted alcohol or common spirits sufficient to immerse them. Digest with a moderate heat for one week; filter the liquor, and set it aside. Add eight gallons of pure soft water, and boil gently to four gallons. Mix the liquor and the decoction together, and boil again till four gallons remain; add thirty-two pounds of white or clarified sugar, and simmer. Then put the sirup into new or clean quart bottles, and cork and seal tightly.

Dose.—A wineglassful three times a day, after having cleansed the stomach. We sometimes use the decoction without the addition of sugar.

Use.—We employ this sirup extensively in all cases where there is impurity of the blood, and find it better than any other. It is excellent in venereal, scrofulous, and cutaneous diseases, ulcers, &c.

2. VEGETABLE SIRUP.

Take	Liverwort *(Hepatica triloba)*	1 pound.
	Solomon's Seal *(Convolvulus multiflora)*	1 pound.
	Skunk-Cabbage *(Ictodes fœtida)*	1 pound.
	Blood-root *(Sanguinaria canadensis)*	½ pound.
	Water-Horehound *(Lycopus virginiana)*	1 pound.
	Water	q. s.

Boil, till the strength is extracted; then pour off the liquor, strain, and simmer down to twelve quarts. Add twenty pounds of strained honey; remove from the fire, and add one pint of brandy: let it settle, and bottle for use.

Dose.—A wineglassful three or four times a day.

Use.—This preparation is employed in every variety of pulmonary disease, a ticularly in bleeding from the lungs, and in asthmatic affections.

I procured this formula from the late Dr. Lawrence, an excellent botanist, an physician and surgeon to the society of "Shakers" at Lebanon, New York.

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3. SCROFULA-SIRUP.

Take Yellow-Dock root (*Rumex crispus*)	2 pound
Bark of Bittersweet-root (*Celastrus scandens*)	2 pound

Bruise, and boil till the strength is extracted; then strain, and simmer down to t lons. Add sugar sufficient to prevent fermentation.

Dose.—A wineglassful three times a day.

Use.—This sirup is beneficial in scrofula and herpetic affections.

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4. SIRUP OF GINGER.

Take Ginger-root, bruised (*Amomum zingiber*)	4 ounce
White Sugar (*Saccharum alba*)	5½ pound
Boiling Water, by measure	3 pound

Macerate the ginger in the water for twenty-four hours; then strain, add the suga form a sirup.

Use.—This is a stimulating, aromatic sirup, and contains all the properties of th ger. It is combined with other agents, and employed chiefly in the cholera.

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5. WHITE-POPPY SIRUP.

Take White-Poppy capsules (*Papaver somniferum*)	q. s.
Warm Water	q. s.

Infuse the capsules for twelve hours; then boil and strain: add sufficient sugar to serve it.

Dose.—Prepared in this manner, there appears to be less of the narcotic propert the herb retained than when made with spirits. The same dose is therefore requir

Use.—This forms a good anodyne, particularly for infants and children. It reli coughs and pains in a similar manner to paregoric, and is superior to it, but poss about the same strength. It is very beneficial in infantile coughs.

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6. SIRUP FOR THE DYSENTERY.

Take Rhubarb (*Rheum palmatum*)	2 ounces.
Wild-Cherry bark (*Prunus virginiana*)	2 ounces.
White Sugar (*Saccharum alba*)	1 ounce.

Simmer a while in water.

Dose.—Give a tablespoonful, every fifteen minutes, until the pain ceases. Mak fresh every day, and add a little brandy.

Use.—The above is taken from a work entitled "The Indian Physician," and is nounced an infallible remedy for the dysentery, never having failed in thirty years.

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7. EXPECTORANT SIRUP.

Take Johnswort (*Hypericum perforatum*)	2 ounces.
Sage (*Salvia officinalis*)	2 ounces.

Form a sirup.

Dose.—For a child six months old, a teaspoonful; for one six years old, a tablesp ful every fifteen minutes.

"INDIAN PHYSICIAN

8. COUGH-SIRUP.

Take Iceland-Moss (*Cetraria islandica*)	2 ounces.
White-Poppy capsules, bruised (*Papaver somniferum*)	2 ounces.
Barley, whole	1 tablespoonful.
Water	3 pints.

Boil down to a quart, and strain; then dissolve in it one pound of brown rock-candy.

Dose.—A tablespoonful whenever the cough is troublesome.

Use.—This sirup is very beneficial in allaying the irritation in tickling coughs.

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9. SIRUP FOR SCROFULA, SALT-RHEUM, ETC.

Take Yellow Dock (*Rumex crispus*)	2 ounces.
Spikenard (*Aralia racemosa*)	2 ounces.
Pipsissewa (*Chimaphila umbellata*)	1 ounce.
Virginia Snake-root (*Aristolochia serpentaria*)	1 ounce.

Bruise all the ingredients, and add two quarts of boiling water and one pint of cider-spirits; simmer down to one quart, strain, and press; then add two pounds of clarified sugar; boil about five minutes: strain, bottle, and seal.

Dose.—From one half to a wineglassful, morning, noon, and night—employing as an outward application the following ointment:—

Take Hogs' Lard	3 pounds.
Peppermint, pulverized (*Mentha piperita*)	4 ounces.

Melt the lard and mix the powder thoroughly over a slow fire, and then add three ounces of beeswax to harden.

Use.—The affected parts should be anointed three or four times a day, and the salve spread on linen rags to be applied to sores or ulcers. VERE

The above recipe cost Dr. J. Vere, of this city, fifty dollars.

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10. SIRUP OF GARLIC.

Take Garlic-bulbs, sliced (*Allium sativum*)	1 pound.
Boiling Water	2 pounds.
Double refined Sugar (*Saccharum alba*)	4 pounds.

Macerate the garlic in the water in a close vessel for twelve hours; then strain, add the sugar, and form a sirup.

Dose.—Give a tablespoonful occasionally.

Use.—It is good in inflammation of the lungs, and for children it is very beneficial in colds and oppression of the chest.

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11. BLACKBERRY-ROOT SIRUP.

Take Blackberry-root bark (*Rubus occidentalis*)	2 pounds.
Water	q. s.
White Sugar (*Saccharum alba*)	4 pounds.
French Brandy	½ pint.

Cleanse the roots thoroughly, and boil them for two hours in the water. Pour off the liquid; then add more water, and thus continue to boil and pour off until all the strength is extracted; then strain, and add all the boilings together. Simmer down to two quarts, and strain; then put in the sugar, and, when cool, add the brandy.

Dose.—A tablespoonful three times a day, fasting. If it does not arrest the disease after taking it a few days, gradually increase the dose, as the stomach becomes able to bear it.

Use.—This is a very valuable sirup in bowel-complaints, particularly the chronic form.

It appears to possess specific virtues, differing from every other vegetable, and will ef a cure when all other remedies fail.

12. BLACKBERRY-SIRUP.

Take Juice of Blackberries *(Rubus occidentalis)*	20 ounces.
White Sugar *(Saccharum alba)*	3 pounds.

Mix, simmer, and strain.

Dose.—A wineglassful four or five times a day.

Use.—This forms a beautiful sirup or cordial, and is very useful in dysentery.

13. ANTI-SPASMODIC SIRUP.

Take Peony-root *(Pæonia officinalis)*	1 pound.
Peruvian Bark *(Cinchona officinalis)*	½ pound.
Virginia Snake-root *(Aristolochia serpentaria)*	¼ pound.
Boiling Water	4 quarts.
White Sugar *(Saccharum alba)*	6 pounds.

Extract the strength, and simmer down to three quarts; then strain, and add the suga

Dose.—A wineglassful three or four times a day.

Use.—This is a valuable tonic sirup in epilepsy, for which only we use it.

14. HOREHOUND-SIRUP.

Take Horehound, dried *(Marrubium vulgare)*	2 ounces.
Boiling Water	½ pint.
Spirits	½ pint.
Honey	½ pound.
Essence of Lemon *(Citrus limonum)*	1 teaspoonful.

Infuse the horehound in the water and spirits for forty-eight hours; then strain, and the honey and lemon.

Dose.—For an adult, one or two tablespoonfuls every two hours.

Use.—This is recommended for hoarseness, asthma, complaints of the breast, lun &c. It promotes the fluid secretions in general, and, if used very freely, will loosen abdomen.

Linnæus prescribed this remedy, and cured a patient that was thrown into a state salivation by the use of mercurials, when every other remedy that had been previou employed for one year failed, and indeed rather increased the disease. After using horehound, the patient recovered in a short time. It is said to have been a favor medicine with the ancients for removing obstructions of the viscera. The negroes of southern states employ it for curing vegetable poisons, &c.

15. COMPOUND IPECAC-SIRUP.

Take Ipecac *(Euphorbia ipecacuanha)*	1 ounce.
Blood-root *(Sanguinaria canadensis)*	1 ounce.
Lobelia *(Lobelia inflata)*	1 ounce.
Cider-Brandy	1 pint.

Bruise the ingredients, add the brandy, and let it stand for a few days in a warm place digest; then strain and press; add water to the roots and boil, and thus extract all strength. Evaporate to one pint; strain, and add one pound of white sugar; again redu to one pint, remove from the fire, and add the medicated spirits to the sirup.

Dose.—For a child one year old, one or two teaspoonfuls, given pure, repeated occ sionally, or as often as may be necessary. Useful in croup, &c.

Use.—This forms the best remedy for hooping-cough, colds, and all diseases, where expectorants are required.

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16. ANTHELMINTIC SIRUP.

Take Alexandria Senna *(Cassia acutifolia,* &c.)	2 ounces.
Male Fern *(Aspidium Filix-mas)*	1 ounce.
Carolina Pinkroot *(Spigelia marilandica)*	2 ounces.
Peach-leaves *(Amygdalus americana)*	1 ounce.

Reduce these to coarse powder, and then add—

Soft Water	1 pint.
Alcohol *(Spiritus rectificatus)*	1 pint.

Let it stand in a closely-stopped glass vessel for two weeks; then submit the whole to a water-bath gentle heat six hours, and decant; add one pint of pure water and half a pound of loaf-sugar, and evaporate to one quart.

Dose.—For a child six years old, one teaspoonful four or five times a day, given in a little sage-tea; proportionate doses for older or younger patients.

Use.—Dr. William Elmer states that the above is one of the safest and most effectual remedies for worms in children that can be administered.

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17. THOMSON'S DYSENTERIC SIRUP.

Take Bayberry-bark *(Myrica cerifera)*	1 ounce.
Sumach-leaves *(Rhus glabra)*	1 ounce.
Water	2 quarts.

Boil for one hour; then strain off, and add—

Golden Seal *(Hydrastis canadensis)*	½ ounce.
Cloves *(Eugenia caryophyllata)*	½ ounce.

When cool, add one pint of rheumatic drops.

Dose.—From one to four tablespoonfuls three times a day.

Use.—This is an excellent article for looseness of the bowels and indigestion.

SAMUEL THOMSON.

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18. GERMAN COUGH-SIRUP.

Take Hyssop *(Hyssopus officinalis)*	1 ounce.
Rue *(Ruta graveolens)*	1 ounce.
Horehound *(Marrubium vulgare)*	1 ounce.
Ginger *(Amomum zingiber)*	1 ounce.
Water	q. s.

Mix, and boil till the strength is obtained; then strain, add sugar-house molasses enough to make a sirup, and dissolve in it one ounce of pure spermaceti.

Use.—This is a celebrated German remedy for coughs, a little to be taken whenever the complaint is troublesome.

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19. SARSAPARILLA-SIRUP.

Take Sarsaparilla, sliced *(Smilax sarsaparilla)*	15 ounces.
Boiling Water	1 gallon.
White Sugar *(Saccharum alba)*	15 ounces.

Macerate the sarsaparilla in the water for twenty-four hours, and boil down to two quarts; then strain, add the sugar, and evaporate to a proper consistence.

Dose.—A wineglassful three or four times a day.

Use.—This sirup is employed as a beneficial alterative, and is also an excellent purifier of the blood.

20. PULMONARY SIRUP.

Take Spikenard-root *(Aralia racemosa)*	16 ounce
Whiteroot *(Asclepias tuberosa)*	16 ounce
Blood-root *(Sanguinaria canadensis)*	8 ounce
Elecampane *(Inula helenium)*	8 ounce
Coltsfoot *(Tussilago farfara)*	8 ounce
Boneset *(Eupatorium perfoliatum)*	8 ounce
Poplar-bark *(Populus tremuloides)*	4 ounce
Seneka Snake-root *(Polygala senega)*	2 ounce
Lobelia *(Lobelia inflata)*	2 ounce
Slippery-Elm bark *(Ulmus fulva)*	8 ounce
Proof Spirits	3 gallon

Bruise or pulverize all, and digest in the spirits for fourteen days; then strain, a white sugar sufficient to form a sirup.

Dose.—A spoonful occasionally, in a mucilage of slippery elm.

Use.—This is a most excellent remedy in all coughs and pulmonary affections.

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21. SIRUP OF RHUBARB.

Take Rhubarb, bruised *(Rheum palmatum)*	2 ounces.
Boiling Water	1 pint.

Macerate for twenty-four hours, and strain; then add—

White Sugar *(Saccharum alba)*	2 pounds.

Form a sirup.

Dose.—For young children, from one to two fluid drams.

Use.—This preparation forms a mild cathartic.

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22. SIRUP OF LOBELIA.

Take Vinegar of Lobelia (see TINCTURES—*Lobelia inflata)*	6 fl. ounces.
White Sugar *(Saccharum alba)*	12 ounces.

Mix, and dissolve the sugar in the vinegar by aid of heat; remove the scum which ri and strain.

Dose.—For an adult, a tablespoonful, to be taken occasionally.

Use.—Sirup of lobelia is very beneficial as an expectorant in colds, coughs, &c.

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23. BLOOD-ROOT SIRUP.

Take Blood-root, bruised *(Sanguinaria canadensis)*	1 pound.
Water	1 gallon.
White Sugar *(Saccharum alba)*	5 pounds.

Extract the strength by leeching or with a percolator; then simmer down to three qua and add the sugar. Boil a few minutes to form a sirup.

Dose.—A tablespoonful three or four times a day.

Use.—This makes a beautiful red sirup, which is very valuable in bronchial, hepat and pulmonary affections. Last evening (May 4, 1850) a person, with apparent sym toms of phthisis, called and stated that this sirup, with the *Restorative Wine Bitte Pulmonary Balsam*, and *Cough-Pills*, had nearly cured her; also that the blood-r sirup had purified her blood. (For the *modus operandi* of this medicine on the syste the reader is referred to PATHOLOGY.)

SPIRITS.

Spirits are similar to *tinctures*. They are usually compounded of several ingredients; the principal menstruum is alcohol, either pure or diluted; sometimes spirits or vinegar alone are employed to prepare this class of medicines.

1. COMPOUND SPIRITS OF LAVENDER.

Take Lavender-flowers (*Lavendula spica*)	2 drams.
Nutmeg (*Myristica moschata*)	2 drams.
Mace (*Myristica moschata*)	2 drams.
Cloves (*Eugenia caryophyllata*)	2 drams.
Cinnamon (*Laurus cinnamomum*)	2 drams.

Pulverize all these, and add a quart of spirits. Digest for a week, and then strain off the liquid.

Dose.—One or two teaspoonfuls of this may be taken often, in a little water, with loaf-sugar.

Use.—This pleasant aromatic preparation is useful in debility, fainting, hysterics, and all nervous affections; it is also beneficial given for pain in the breast, flatulence, diarrhœa, &c. The common method of making this article with oil forms a very inferior preparation.

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2. SPIRITS OF MINDERERUS.

Take Vinegar	q. s.
Carbonate of Potash (*Potassæ carbonas*)	q. s.

Mix well together.

Dose.—A tablespoonful three or four times a day, diluted with a little water.

Use.—This is given as a refrigerant in fevers, particularly those of a typhoid type. I add the sal-aëratus, or bicarbonate of potash, instead of the ammonia.

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3. SPIRITS OF CAMPHOR.

Take Gum-Camphor (*Laurus camphora*)	1 ounce.
Alcohol (*Spiritus rectificatus*)	1 pint.—Mix.

Dose.—From one half to a teaspoonful may be taken occasionally in a little sweetened water.

Use.—This preparation contains all the virtues of camphor: it is useful in flatulence, pain or sickness at the stomach, colic, cramp, &c. Combined with equal parts of spirits of lavender and essence of peppermint, it becomes more efficacious. I found much benefit from the use of it myself during the cholera of 1832.

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4. SPIRITS OF MINT.

Take Spearmint, fresh (*Mentha viridis*)	2 ounces.
Alcohol (*Spiritus rectificatus*)	1 quart.

Bruise the herb, and saturate.

Dose.—The dose must be regulated according to the patient's habits. Some will require one half and others a full gill at a time, and repeated every thirty minutes. A teaspoonful of spirits of nitre may be added to each dose. The patient should take it till it produces relief.

Use.—This preparation of mint will be found exceedingly useful in the treatment of stranguary and retention of urine, arising from stricture of the urethra and diseases of the prostate gland, proving successful where other means have failed. It has likewise been employed with the best effects in the treatment of piles, particularly in a state of infla mation; to be applied on a little cotton. In cases where the green mint can not be p cured, the dried may be used, though perhaps it is not so good. This liquid may also used, both externally and internally, in cases of severe vomiting.

TINCTURES.

TINCTURES are certain active ingredients, principally vegetable substances, which a imparted to alcohol, spirits, or wine. Tinctures are excellent for administering a gre variety of medicinal agents; but, in some cases, there may be an objection to them, consequence of the spirits which they contain. Substances yield their virtues mo readily to spirits by the aid of heat. All tinctures should be digested in a warm plac and when the spirit has remained upon the substance for the directed period, it should decanted, instead of being left, as is too often the case, standing on the dregs until it used. This practice is erroneous, and may be attended with evil consequences; for t characters and properties of a tincture which has been suffered to remain too long contact with the solid ingredients, will often be found to differ considerably from wh they would have been if the process had been terminated at the indicated time. Wh a tincture is made by maceration, it requires to be filtered, after being separated from t dregs; otherwise, it will be turbid, and deposite much insoluble matter on standing.

1. HYDRAGOGUE TINCTURE.

Take Elder-bark *(Sambucus canadensis)*	1 pound.
Good Wine	1 gallon.

Let it simmer for an hour; then strain and bottle.

Dose.—A wineglassful three or four times a day.

Use.—This tincture is usefully administered in dropsical affections, particularly ascites, or abdominal dropsy. It has cured many without any other ingredient.

2. BOTANICAL TINCTURE.

Take Gum-Guaiacum *(Guaiacum officinale)*	1 ounce.
Nitre *(Potassæ nitras)*	1 ounce.
Camphor *(Laurus camphora)*	2 drams.
Balsam of Tolu *(Balsami tolutanum)*	2 drams.
Proof Spirits	2 quarts.—Mix.

Dose.—Two teaspoonfuls three or four times a day, to be taken in a tumbler of prickly ash tea.

Use.—I obtained this formula from the late eminent Dr. Budd, of New Jersey. He pro ured it from another physician, in Charleston, South Carolina. It is highly extolled rheumatism, and many other external painful chronic affections. I have used it but little but Dr. Budd informed me that he was so partial to it, that he usually prepared fiv gallons at a time.

3. TINCTURE OF GUM-MYRRH.

Take Gum-Myrrh, pulverized *(Balsamodendron myrrhr)*	1 ounce.
Alcohol *(Spiritus rectificatus)*	1 pint.—Mix.

Dose.—One or two teaspoonfuls three or four times a day, in taken motherwort-tea.

Use.—This and the tincture of castor are combined in equal parts, and given in ob structed menses. In one case it cured when all other means failed. It enters into th "*Hot Drops*" of the Thomsonians, which is a very valuable external application fo rheumatic and other painful affections.

4. TINCTURE OF LOBELIA.

Take Lobelia, pulverized *(Lobelia inflata)*	4 ounces.
Proof Spirits	2 quarts.

Let it stand for a week, and then filter.

Dose.—From a teaspoonful to a tablespoonful, as often as may be necessary.

Use.—This tincture is an excellent remedy in the treatment of asthma, croup, and pulmonary affections, and is given in lockjaw and cases of poisoning. It is also useful as an external application in piles, in inflammatory and cutaneous diseases, and in herpetic and painful affections. It is likewise extremely valuable given in injections for strangulated hernia and bilious colic.

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5. WHITLAW'S ETHEREAL TINCTURE OF LOBELIA.

Take Lobelia-herb, dried *(Lobelia inflata)*	1 pound.
Alcohol *(Spiritus rectificatus)*	2 quarts.
Spirit of Nitric Ether *(Spiritus ætheris nitrici)*	2 quarts.
Spirit of Sulphuric Ether *(Spiritus ætheris sulphurici)*	4 ounces.

Mix, macerate for fourteen days in a dark place, and filter.

Dose.—From five to twenty drops: if necessary, gradually increase the dose.

Use.—This is the preparation of lobelia most generally employed in England, and is administered in asthma, hooping-cough, croup, chronic bronchitis, and wherever lobelia is indicated.

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6. ANODYNE-TINCTURE.

Take the pollen of Hops *(Humulus lupulus)*	1 ounce.
Alcohol *(Spiritus rectificatus)*	1 pint.

Macerate for some time, and filter.

Dose.—From one to two teaspoonfuls, to be taken in milk.

Use.—This preparation is useful to allay the after-pains of child-birth, and in cases where opium can not be administered.

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7. TINCTURE OF CANTHARIDES.

Take Spanish Flies, pulverized *(Cantharis vesicatoria)*	2 drams.
Proof Spirits	1 pint.

Let it stand for one week, and strain.

Dose.—For an adult, twenty-five drops; for a child two years old, ten drops is a dose, in any kind of tea.

Use.—I have occasionally prescribed this in incontinence of urine. Some physicians employ it as a remedy in gleet.

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8. TINCTURE FOR GOUT AND RHEUMATISM.

Take White Hellebore *(Veratrum viride)*	3 drams.
Opium *(Papaver somniferum)*	1 dram.
Lisbon Wine	8 ounces.

Let it digest till the strength is extracted.

Dose.—From twenty-five to eighty drops may be given. A tea of meadow-saffron may be drank at the same time.

Use.—This preparation is similar to the celebrated composition discovered some sixty years ago by M. Husson, a French officer, which has been so highly famed for its almost infallible power in the cure of gout, and which was originally sold for one or two crowns a dose.

10. TINCTURE OF BALSAM-TOLU.

Take Balsam of Tolu *(Balsami tolutanum)*.................
Alcohol *(Spiritus rectificatus)*.........................

Let it stand for one week, and filter.

Use.—This is combined with the compound tincture of senna *(eli*
ployed as a remedy in the treatment of the water-brash.

11. ELIXIR SALUTIS, OR COMPOUND TINCTURE OF

Take Alexandria Senna *(Cassia acutifolia,* &c.)..............
Jalap *(Convolvulus jalapa)*..............................
Fennel-seed *(Fœniculum vulgare)*.......................
Proof Spirits, or best Brandy..........................

Let it stand for one week, and strain.

Dose.—One fluid ounce.

Use.—This preparation is a mild but effectual purgative. It
cathartic, particularly for children, operating mildly but effectually,
stomach and bowels, and is withal very pleasant to take.

12. TINCTURE OF OPIUM (LAUDANUM).

Take Opium *(Papaver somniferum)*.........................
Proof Spirits.......................................

Rub up the opium with a small quantity of the spirits in a mortar till
add the balance of the menstruum; let it stand a week, occasionally ag

Dose.—From fifteen to sixty drops.

Use.—Useful as an anodyne, and is excellent as an injection in bowe
in teaspoonful applications; it is also valuable as an external applicati

13. COMPOUND TINCTURE OF OPIUM (PAREGORIC

Take Opium *(Papaver somniferum)*.........................
Flowers of Benzoin *(Acidum benzoicum)*.................
Camphor *(Laurus camphora)*.........................

Dose.—Twenty-five drops twice a day. In cases of fits, it may be increased until the pupil of the eye becomes somewhat dilated, or until it causes a little pain or dizziness in the head.

Use.—It is useful in epilepsy, neuralgia, palpitation of the heart, and in asthmatic diseases.

15. EXPECTORANT AND ANTI-SPASMODIC TINCTURE.

Take Blood-root (*Sanguinaria canadensis*)	1 ounce.
Lobelia-seed (*Lobelia inflata*)	1 ounce.
Brazilian Ipecac (*Cephaëlis ipecacuanha*)	1 ounce.
Wine, Metheglin, or Spirits	3 pints.

Let it stand for one week. When taken, mix with water.

Dose.—A tablespoonful twice a day, or as often as may be necessary.

Use.—This tincture is useful in inflammation of the lungs, in pleurisy, hooping-cough, consumption, &c., and when there is any difficulty of expectoration.

16. TINCTURE OF SKUNK-CABBAGE.

Take Skunk-Cabbage root (*Ictodes fœtida*)	3 ounces.
Proof Spirits	1 quart.

Let it stand for one week.

Dose.—From a teaspoonful to a tablespoonful.

Use.—This preparation is employed as a remedy in asthma and hysterics.

17. TINCTURE OF COHOSH.

Take Black-Cohosh root (*Macrotys racemosa*)	3 ounces.
Proof Spirits or Wine	1 quart.

Let it stand for a week.

Dose.—A small teaspoonful three or four times a day.

Use.—It is beneficial in obstinate coughs, rheumatism, and impurity of the blood; also in obstructed menstruation, fluor-albus, and other uterine affections. Dr. Morrow, of Cincinnati, depends almost exclusively on this tincture for the treatment of all this class of diseases.

18. TINCTURE OF FOXGLOVE.

Take Foxglove-leaves (*Digitalis purpurea*)	1 ounce.
Proof Spirits	1 pint.

Digest for one week, and strain.

Dose.—From fifteen to twenty drops, to be given three or four times a day, in parsley-tea.

Use.—This tincture is recommended in inflammatory diseases. It lessens the pulse, by diminishing arterial excitement, and thereby prevents the necessity of blood-letting. It is attended with excellent effect in inflammation of the lungs; it is also very valuable in dropsy of the chest, and particularly in all diseases of the heart attended with pain, palpitation, &c.

19. TINCTURE OF HELLEBORE.

Take White Hellebore (*Veratrum album*)	1 ounce.
White Wine	1 pint.

Infuse for ten days, and filter through paper.

Dose.—From fifteen to thirty drops may be given every two hours in painful cases.

Use.—This tincture has been highly recommended in gout and rheumatism. It stated that even one or two drops have immediately cured a fit of the gout. The par ected may be bathed with a strong decoction of the same article,

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20. SUDORIFIC TINCTURE—SWEATING OR RED DROPS.

Take Ipecac *(Cephaëlis ipecacuanha)*	2 ounces.
Saffron *(Crocus officinalis)*	2 ounces.
Camphor *(Laurus camphora)*	2 ounces.
Virginia Snake-root *(Aristolochia serpentaria)*	2 ounces.
Opium *(Papaver somniferum)*	2 ounces.
Hollands Gin or Jamaica Spirits	3 quarts.

Let it stand for two weeks, and filter.

Dose.—One teaspoonful, given in a tumbler of catnep-tea, every hour or two, till produces perspiration.

Use.—This medicine is probably unsurpassed in fulfilling the indication for which is given, which is generally to produce free perspiration. One or two doses, aided b warm infusions and bathing the feet, cause a copious sweating, and at the same time it almost sure to relieve pain. Hence it is useful in a variety of diseases: in pleuris fever, inflammation, &c., I know of no medicine so certain in its operation. I should b much gratified to find the same effect from some native plant. Perhaps the sweat-ro *(Polemonium reptans)*, of Ohio, will fulfil the same indications; it is called Greek valerian, abscess-root, &c. These drops have also been found very valuable in dysentery.

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21. WINE-TINCTURE.

Take Peruvian Bark *(Cinchona officinalis)*	2 ounces.
Wild-Cherry bark *(Prunus virginiana)*	1 ounce.
Cinnamon *(Laurus cinnamomum)*	1 dram.
Cloves *(Eugenia caryophyllata)*	1 dram.
Nutmeg *(Myristica moschata)*	1 dram.
Sulphur *(Sulphur sublimatum)*	1 ounce.
Wine	2 quarts.

Let it stand a sufficient time to extract the strength.

Dose.—A wineglassful every two or three hours.

Use.—We have found this tincture an almost infallible cure for intermittent fever fever and ague, after suitable evacuants. It removes the disease when all other mean fail. Up to the present period (May, 1850), I find this the best medicine for fever an ague of any with which I am acquainted. In two cases which have occurred within few days, this tincture removed the paroxysms, where other remedies had proved of n avail; in one instance, the patient had been under homœopathic treatment for months.

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22. ANTI-SPASMODIC TINCTURE.

Take Tincture of Lobelia *(Lobelia inflata)*	1 pint.
Tincture of Capsicum *(Capsicum baccatum)*	1 pint.
Compound Tincture of Lady's Slipper *(Valeriana officinalis)*	3 gills.

Mix, and bottle for use.

Dose.—From a teaspoonful to a tablespoonful, in a gill of water or herb-tea; to b given every twenty minutes.

Use.—Dr. Booth, of Alabama, states that he has found the above preparation an infallible remedy for fever and ague. He gives a teaspoonful just before the cold stage o the disease, repeating the dose every twenty minutes until nausea or vomiting take place. It is also recommended for fits, spasms, and all violent attacks of disease; and i suspended animation from drowning, hanging, lightning, or any other cause; likewise good in cases where poisonous substances have been taken.

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23. TINCTURE OF CICUTA.

Take Cicuta-leaves *(Conium maculatum)*	2 ounces.
Cider-Brandy or Alcohol	1 pint.

Mix, and digest for one week; then strain, and express the liquor.

Use.—This forms an excellent outward application for indurated tumors of the breast and other parts. I have recently been prescribing for an extraordinary enlarged tumor of the breast, for which I kept the parts wet with this tincture, with the occasional use of bittersweet-ointment.

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24. COMPOUND TINCTURE OF VALERIAN.

Take Skullcap *(Sculletaria lateriflora)*	4 ounces.
Yellow Lady's Slipper *(Cypripedium pubescens)*	4 ounces.
Best French Brandy	1 quart.

Bruise the plants, and add to the brandy.

Dose.—From a teaspoonful to a tablespoonful occasionally, in sweetened water.

Use.—This tincture is beneficial in all nervous diseases.

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25. BALM-OF-GILEAD TINCTURE.

Take Balm-of-Gilead buds, bruised *(Balsamodendron gileadense)*	2 ounces.
Best Jamaica Spirits	1 quart.

Digest for a few days.

Dose.—From a teaspoonful to a tablespoonful, in sweetened water.

Use.—This is a good remedy for colds, coughs, and pain in the breast. Many persons have been greatly benefited by its employment.

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26. VINEGAR OF COLCHICUM.

Take Colchicum-bulbs, fresh *(Colchicum autumnale)*	1 ounce.
Vinegar	16 fl. ounces.
Proof Spirits	1 fl. ounce.

Macerate the root in the vinegar for three days in a covered glass vessel; press, strain, and set away, that the dregs may subside: then add the spirit to the clear liquor.

Dose.—From half a dram to two drams, frequently repeated.

Use.—This preparation is preferred by Scudamore to any other for gout. He recommends magnesia to be combined with it, to saturate the acid.

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27. TONIC-TINCTURE.

Take Old Cider	4 gallons.
White-Oak bark *(Quercus alba)*	10 ounces.
Horseradish-root *(Cochlearia armoracia)*	1 pound.
Seneka Snake-root *(Polygala senega)*	6 ounces.
Carbonate of Iron *(Ferri carbonas)*	6 ounces.
Golden-Seal root *(Hydrastis canadensis)*	4 ounces.
Cayenne Pepper *(Capsicum baccatum)*	2 ounces.

Bruise all fine, and add the cider; let it be shaken up every day for eight or ten days.

Dose.—For an adult, half or two thirds of a wineglassful three times a day; for children, according to their age.

Use.—A sure remedy for intermittent fever, debility, and an impoverished state of blood. It is also excellent in obstructed menses, and for dropsy, worms, &c.

The preceding formula was communicated by Dr. Isaac S. Smith, of this city, a judicious physician of reformed practice.

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28. STIMULATING DROPS, HOT DROPS, TINCTURE OF CAPSICUM.

Take	Cayenne Pepper *(Capsicum baccatum)*	1 ounce.
	Best French Brandy	1 pint.

Mix and digest.

Dose.—From one half to a teaspoonful, in plenty of sweetened water. If necess repeat the dose.

Use.—Good internally and externally; it is excellent for cholera, colic, pain in stomach and bowels, cold and languid circulation, &c. Recently a patient called on for medical aid, to whom I gave most of our ordinary remedies without any benef finally, I administered the tincture of capsicum, which immediately removed the pain

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29. TINCTURE OF BLOOD-ROOT.

Take	Blood-root, bruised *(Sanguinaria canadensis)*	1 ounce.
	Cider-Brandy or Whisky	1 pint.

Mix, put it in a warm place, and digest for a week; then filter.

Dose.—From one half to a teaspoonful three times a day, taken in honey or sug In bleeding at the lungs, it may be administered every two hours until nausea is pr duced.

Use.—This preparation is very valuable in pulmonary diseases, and particularly bleeding at the lungs. I recently met a person who informed me that it arrested a hem orrhage at the lungs speedily in a very unfavorable case. It is useful likewise in live complaints, especially in jaundice, and is also a good purifier of the blood.

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30. COMPOUND TINCTURE OF YARROW.

Take	Tincture of Yarrow flowers and tops *(Achillea millefolium)*	1 ounce.
	Garden Celandine *(Chelidonum majus)*	1 ounce.
	Proof Spirits	1 quart.

Mix, and digest.

Use.—Excellent in all erysipelatous, cutaneous, and herpetic affections. In one cas of recent occurrence, it removed all the symptoms of salt-rheum by a few application It is remarkably efficacious in pain and swelling of the gums, face, &c.

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31. "HEART'S-EASE."

Take	English Valerian *(Valeriana officinalis)*	2 pounds.
	Saffron *(Crocus officinalis)*	¾ pound.
	Aloes *(Aloe socotorina)*	1 pound.
	Sulphuric Ether *(Ætheris sulphuricum)*	8 pounds.
	Alcohol *(Spiritus rectificatus)*	3½ gallons.
	Musk *(Moschus moschiferus)*	2½ ounces.
	Oil of Bergamot *(Citrus limetta)*	1 ounce.
	Oil of Lavender *(Lavendula spica)*	1½ ounces.

Dose.—A teaspoonful three times a day, in half a wineglassful of water.

Use.—This is one of the secret remedies sold in some parts of the country to a grea extent, and is very highly recommended in the treatment of diseases of the heart, palpitations, &c.

32. COMPOUND TINCTURE OF IRON.

Take Subcarbonate of Iron *(Ferri subcarbonas)*	1 pound.
Muriatic Acid *(Acidum muriaticum)*	1 quart.
Alcohol *(Spiritus rectificatus)*	3 quarts.

Pour the acid upon the iron in a glass vessel, and shake the mixture occasionally for three days; then set it aside, that the dregs may subside; lastly, add the alcohol, and filter.

Dose.—From ten to fifteen drops, three times a day, in sweetened water.

Use.—This makes a beautiful and efficacious compound. It is a valuable tonic in dyspepsia and female complaints. W. B. MEAD.

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33. THOMSON'S "THIRD PREPARATION."

Take Lobelia-seeds, pulverized *(Lobelia inflata)*	2 ounces.
Cayenne Pepper, pulverized *(Capsicum baccatum)*	2 ounces.
Nerve-Powder *(Cypripedium pubescens)*	1 ounce.

Put them into a pint of No. 6 (see next formula), shake them well together, and preserve it closely corked for use.

Use.—This is for the most violent attacks of disease, such as tetanus or lockjaw, hydrophobia, drowning, fits, spasms, and all cases of suspended animation. In all cases where the jaws are set, pour this into the mouth, between the cheek and teeth, and the muscles will relax, and the mouth soon come open. It goes through the system like electricity, giving heat and life to every part. SAMUEL THOMSON.

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34. THOMSON'S HOT DROPS, OR "NO. 6."

Take Spirits of Wine	1 gallon.
Gum-Myrrh, pulverized *(Balsamodendron myrrha)*	1 pound.
Cayenne Pepper *(Capsicum baccatum)*	1 ounce.

Put them into a stone jug, and boil it for a few minutes in a kettle of water, leaving the jug uncorked. It may be prepared without boiling by letting it stand, and shaking it two or three times a day for a week, when it will be fit for use.

Dose.—From a teaspoonful to a tablespoonful, in a little hot water, or given in other medicine.

Use.—These drops are to remove pain and prevent mortification, either internally or externally. They may be used to bathe with in all cases of external swellings or pain. It is an excellent remedy for the rheumatism, in which case take a teaspoonful; also bathe the parts affected. It will relieve headache, by taking a dose, bathing it on the head, and snuffing it up the nose. It is good for bruises, sprains, swollen joints, and old sores; it will allay inflammation, reduce swellings, ease pain, and produce a tendency to heal. There is scarcely a complaint in which this may not be used to advantage. It is the best preservative against mortification I have ever found.

For bathing in rheumatism or itch, or for any other external application, add one quarter part of spirits of turpentine; and for sprains or bruises, a small quantity of camphor and nerve-ointment may be added. SAMUEL THOMSON.

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35. TINCTURE OF ACONITE.

Take Monkshood *(Aconitum napellus)*	4 ounces.
Diluted Alcohol *(Spiritus tenuior)*	1 quart.

Macerate for fourteen days, and filter.

Dose.—Five drops three times a day.

Use.—In rheumatism, neuralgia, &c. The effects should be carefully watched. It is also employed as an embrocation to the painful parts by means of a small piece of sponge, with a handle attached.

36. TINCTURE OF LARKSPUR SEED.

Take Larkspur-seed *(Delphinium consolida)*	1 ounce.
Diluted Alcohol *(Spiritus tenuior)*	1 pint.

Mix, and macerate several days, and then filter.

Dose.—From ten to twenty drops three times a day.

Use.—This preparation is administered in spasmodic asthma, and is also applied the head to destroy vermin.

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37. VINEGAR OF LOBELIA.

Take Lobelia, powdered *(Lobelia inflata)*	4 ounces.
Vinegar	6 gills.

Mix, macerate for twelve hours, and displace until twenty-four fluid ounces are obtaine using diluted vinegar to expel the last portion.

Dose.—The dose may be the same as that of the tincture.

Use.—This is beneficial in cases where lobelia is indicated.

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38. BELLADONNA-TINCTURE.

Take Belladonna-leaves *(Atropa belladonna)*	4 ounces.
Diluted Alcohol *(Spiritus tenuior)*	1 quart.

Mix, and macerate for two weeks; then express and filter.

Dose.—From fifteen to thirty drops.

Use.—This tincture is useful in cases where the herb is indicated. It is also applied externally to relieve pain.

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39. TINCTURE FOR DEBILITY.

Take Tincture of Wormwood *(Artemisia absinthium)*	½ ounce.
Compound Elixir of Orange-peel *(Citrus aurantium)*	½ ounce.
Essence of Peppermint *(Mentha piperita)*	2 drams.

Mix, and digest well.

Dose.—Sixty drops three times a day.

Use.—This is an excellent tonic preparation, and is very useful in loss of appetite, debility, and indigestion.

HUFELAND.

TROCHES.

TROCHES, or *suppositories*, are solid remedies, of a conical form, intended to be introduced into the rectum, and to remain there for a certain length of time, to act as stimulants and discutients.

1. PILE-TROCHES.

Take Aloes *(Aloe socotorina)*	½ ounce.
Gum-Myrrh *(Balsamodendron myrrha)*	½ ounce.
Castile-Soap shavings	⅓ ounce.
Sugar of Lead *(Acetas plumbi)*	⅓ ounce.
Oxyde of Copper *(Acetas cupri)*	¼ ounce.
Our Vegetable Caustic (see CAUSTICS)	½ ounce.

Pulverize, and add two quarts of molasses; then put the whole into an iron vessel, and simmer until the mass becomes sufficiently hard to form into troches of a convenient size for introduction into the rectum.

Use.—One or two introduced up the rectum daily, are excellent for the piles, and particularly in the treatment of the bleeding piles.

2. OPIUM-SUPPOSITORIES.

Take Turkey Opium, soft *(Papaver somniferum)*	q. s.

Form it into the proper conical shape, of the thickness of a common quill, and one fourth of an inch long; dip it in olive-oil, and introduce it up the bowel.

Use.—These are given in severe cases where, from vomiting or other causes, no anodyne can be taken. They may also be employed when it is inconvenient to introduce anodynes by enema.

WASHES.

Washes, or *lotions*, are certain liquids in which are suspended medicinal agents, and are designed principally for external use. They may be used as mere fomentations to soothe pain and remove inflammation, as a mode of introducing medicinal substances into the system, or as revulsive agents, according to their nature and composition.

1. OPHTHALMIC OR COOLING WASH.

Take Borax *(Sodæ boras)*	1 ounce.
Rain or Spring Water	1 quart.

Mix, and let it stand for twelve hours.

Use.—This forms a very cooling and useful wash for all kinds of inflammation, particularly of the eyes; also for sore and inflamed nipples, canker, and sore mouth and throat. It may be applied freely and often.

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2. REFRIGERANT LOTION OR WASH.

Take Sugar of Lead *(Acetas plumbi)*	1 dram.
Rain-Water	1 pint.—Mix.

Use.—This wash is cooling and serviceable in inflammation.

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3. HERPETIC WASH.

Take Poke-root *(Phytolacca decandria)*	1 ounce.
Lobelia *(Lobelia inflata)*	1 ounce.
Yellow Dock *(Rumex crispus)*	1 ounce.

Pulverize, and add a tablespoonful of the powder to a pint of spirits.

Use.—This is employed in bathing for eruptions of the skin: apply often.

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4. ALKALINE WASH.

Take weak ley made of hickory-ashes, or, as a substitute, a teaspoonful of sal-aëratus to one quart of rain-water.

Use.—These washes are remarkably efficacious in fevers, by bathing the surface often with them. Extraordinary benefit attends this practice, equal if not superior to that resulting from the administration of internal medicine.

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5. YELLOW WASH.

Take Borax-Water *(Sodæ boras)*	1 pint.
Muriate of Mercury *(Hydrargyrum ammoniatum)*	1 dram.—Mix.

Use.—This wash is much employed by allopathic physicians as a mild and cleansing caustic in the treatment of venereal ulcers, for which it is signally beneficial. I now substitute other remedies, however, and it is discarded by eclectic practitioners generally.

6. SALINE WASH.

Take Fine Salt	1 ounce.
Proof Spirits *(Spiritus tenuior)*	½ pint.
Vinegar	½ pint.
Rain-Water	½ pint. — Mix.

Use. — This makes a good refrigerant wash for many species of inflammation. We are in the habit of prescribing it, particularly in inflammation of the brain, dropsy of the head, &c. Sometimes it is applied tepid, at other times cool, but seldom absolutely cold, except in very urgent cases.

7. ASTRINGENT WASH.

Take Hemlock-bark, dried *(Pinus canadensis)*	1 ounce.
Sumach-root bark *(Rhus glabra)*	1 ounce.
Witch-Hazel bark *(Hamamelis virginica)*	1 ounce.
White-Oak bark *(Quercus alba)*	1 ounce.

Mix, and make a strong decoction.

Use. — This is a useful preparation to inject in fluor-albus, and also to wash the parts in falling of the bowel and womb.

8. LOBELIA-WASH.

Take Lobelia herb and capsules *(Lobelia inflata)*	1 ounce.
Boiling Water	1 gill.
Spirits *(Spiritus tenuior)*	1 gill.

Let it stand for one week, and strain.

Use. — It may be applied to inflamed and sore eyes, erysipelas, tetter, &c.

9. MURIATIC-ACID LOTION.

Take Muriatic Acid *(Acidum muriaticum)*	1 ounce.
Water	16 ounces. — Mix.

Use. — Recommended as a wash for chilblains, and in cases of leprosy and other cutaneous diseases.

10. CREASOTE-LOTION.

Take Creasote *(Creasotum)*	½ dram.
Water	5 ounces. — Mix.

Use. — This preparation is a very good wash in psora, &c.

11. ACONITE-LOTION.

Take Tincture of Aconite *(Aconitum napellus)*	½ ounce.
Cicuta-juice *(Conium maculatum)*	½ ounce.

Mix, and make a lotion.

Use. — This is exceedingly useful applied over the seat of the pain in tic-doloreux.

NELIGAN.

12. TOBACCO-LOTION.

Take Tobacco *(Nicotiana tabacum)*	2 to 4 drams.
Boiling Water	1 pint.

Mix and infuse.

Use. — This is employed as a wash in psora, and is to be used with great caution. A gill, applied by injection, has cured strangulated hernia, and restored suppressed urine.

13. MACKENZIE'S SOLUTION.

Take Nitrate of Silver *(Argenti nitras)*	1 scruple.
Distilled Water *(Aqua distillata)*	1 ounce.

Mix and dissolve.

Use.—This lotion is employed to wash the throat and fauces in affections of those parts. It is also good for opacity of the cornea, to be applied with a camel's-hair pencil. More diluted, it likewise forms an excellent injection for all purulent discharges from the uterus.

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14. IODINE-LOTION—NO. 1.

Take Tincture of Iodine *(Tinctura iodinii)*	½ fl. ounce.
Iodide of Iron *(Ferri iodidum)*	12 grains.
Chloride of Antimony *(Antimonii chloridum)*	½ ounce.

Mix, and form a wash.

Use.—This is employed as an application to corns, by means of a camel's-hair pencil, after the corn has been pared.

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15. IODINE-LOTION—NO. 2.

Take Iodine *(Iodinum)*	1 to 2 grains.
Alcohol *(Spiritus rectificatus)*	1 fl. dram.
Water	1 pint.

Mix, and form a wash.

Use.—This is employed as an application or wash to scrofulous ulcers.

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16. POTASSIUM-WASH.

Take Sulphuret of Potassium *(Potassii sulphuretum)*	1 ounce.
Water	½ pint.

Mix and dissolve.

Use.—Employed as a wash in herpetic and other cutaneous eruptions.

◆

17. AQUA-PURA WASH.

Take pure cold or Spring-Water	q. s.

Bathe the eyes, face, neck, and feet, daily, and occasionally the whole surface, with a little soap or ley added.

Use.—Excellent refrigerant, tonic, detergent, &c. The water is also to be freely taken internally, particularly in febrile diseases.

18. HAIR-DYE.

Take Silver *(Argentum)*	2 drams.
Steel Filings *(Ferri filum)*	½ ounce.
Nitric Acid *(Acidum nitricum)*	1 ounce.
Rain-Water *(Aqua pura)*	8 ounces.

Mix, dissolve, and strain.

Use.—To be applied to the hair by means of a clothes-brush.

WATERS.

Medicated Waters is a term used by the United States Pharmacopœia to designat all preparations of water impregnated with medicinal substances, not appertaining t other classes of preparations. It includes the **Distilled Waters** of the British colleges, and is a more appropriate designation, because many of the latter preparations ar not distilled waters, but are made with an essential oil united to the water by trituratio or agitation, no distillation being employed.

By Distillation.—There are two modes of obtaining medicated waters by this process: first, by distilling the water directly off the substances; second, by employing the essential oil already separated from the vegetable, and distilling it over with the water. In most cases, where the fresh plant can be procured, it is to be preferred. Many of these substances lose their volatile oil and fragrant properties when dried; but, in some instances, the oil is retained, notwithstanding desiccation. Many which lose the oil by the process of drying, retain it fully for a length of time when preserved by being beat into a pulp with common salt; and, when used in this state, afford very good distilled waters.

Distilled waters are apt, sooner or later, to lose their aroma, become mouldy, and acquire thereby an unpleasant odor. They have been thought to keep better with the addition of about a fortieth part of rectified spirit, but the advantages of this addition are doubted by practical men. The most effectual precaution for preserving them is to prepare them with extremely pure natural waters, such as snow, rain, or very fine spring water, free of any unusual proportion of carbonic acid; and to keep them in black, orange, or red bottles. A better mode of procedure is to redistil the water as soon as any change is perceived in it: this restores its original odor, and renders it less subject to alteration.

Another method of making medicated waters is by impregnating the water with the volatile oil, by triturating them together with the addition of carbonate of magnesia, and filtering to remove the latter. This affords an excellent product, as it is pure and permanent. The addition of the carbonate of magnesia is merely to enable the operator to produce such a minute division of the oil as will enable water to act on it more efficiently. Other powders act in the same way, and are preferred by some manufacturers.

Griffith.

1. CARBONIC-ACID WATER, OR ARTIFICIAL SELTZER-WATER.

Preparation.—By means of a forcing-pump, throw into a suitable receiver, nearly filled with water, a quantity of carbonic acid equal to five times the bulk of the water. Carbonic acid is obtained from the hard carbonate of lime, by means of dilute sulphuric acid.

Properties.—Carbonic-acid water is a sparkling liquid, possessing an agreeable, pungent, acidulous taste. It reddens litmus feebly, and is precipitated by lime-water. Being impregnated with the acid gas under the influence of pressure, it effervesces strongly when freed from restraint. Hence, to preserve its briskness, it should be kept in strong, well-corked bottles, placed inverted in a cool situation. Several natural waters are of a similar nature, such as those of Seltzer, Spa, and Pyrmont; but the artificial preparation has the advantage of a stronger impregnation with the acid gas.

Dose.—The quantity taken need only be regulated by the reasonable wishes of the patient.

Use.—Carbonic-acid water is diaphoretic, diuretic, and anti-emetic. It forms a very grateful drink to febrile patients, allaying thirst, lessening nausea and gastric distress, and promoting the secretion of urine. It also forms a very convenient vehicle for the administration of magnesia, the carbonated alkalies, sulphate of magnesia, and the saline cathartics generally; rendering these medicines less unpleasant to the palate, and, in irritable states of the stomach, increasing the chances of their being retained. When used for this purpose, six or eight fluid ounces will be sufficient.

Bache.

2. PEPPERMINT-WATER.

Take Peppermint, dried *(Mentha piperita)*	2 pounds.
Or Oil of Peppermint *(Mentha piperita)*	2 drams.
Proof Spirit	7 fl. ounces.
Distilled Water *(Aqua distillata)*	2 gallons.

Distil a gallon. When the fresh herb is used the quantity should be doubled.

Use.—(See next formula.)

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3. SPEARMINT-WATER.

Take Spearmint, dried *(Mentha viridis)*	2 pounds.
Or Oil of Spearmint *(Mentha viridis)*	2 drams.
Proof Spirit	7 fl. ounces.
Distilled Water *(Aqua distillata)*	2 gallons.

Distil a gallon. When the fresh herb is used the quantity should be doubled.

Use.—The two mint-waters are among the most grateful and most employed of this class of preparations. Together with cinnamon-water, they are used in this country, almost to the exclusion of all others, as the vehicle of medicines given in the form of mixture. They serve not only to conceal or qualify the taste of other medicines, but also to counteract their nauseating properties. The peppermint-water is generally thought to have a more pleasant flavor than that of spearmint, but some prefer the latter. Their effects are the same.

Wood.

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4. CAMPHOR-WATER.

Take Camphor *(Laurus camphora)*	2 drams.
Alcohol *(Spiritus rectificatus)*	40 drops.
Magnesia *(Magnesiæ)*	1 dram.
Distilled Water *(Aqua distillata)*	1 quart.

Rub the camphor first with the alcohol, afterward with the magnesia, and lastly with the water gradually added; then filter through paper.

Dose.—It is usually given in the dose of one or two tablespoonfuls, repeated every hour or two hours.

Use.—Camphor-water is chiefly employed in low fevers and typhoid diseases attended with restlessness, slight delirium, or other symptoms of nervous derangement or debility. It has this advantage over camphor in substance, that the latter is with difficulty dissolved by the liquors of the stomach; but it is not applicable to cases where very large doses of the medicine are required.

Wood.

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5. CINNAMON-WATER.

Take Oil of Cinnamon *(Laurus cinnamomum)*	½ fl. dram.
Magnesia *(Magnesiæ)*	½ dram.
Distilled Water *(Aqua distillata)*	1 quart.

Rub the oil of cinnamon first with the magnesia, then with the water gradually added, and filter through paper.

Use.—Cinnamon-water is a favorite vehicle with many practitioners for other less pleasant medicines, but should be used cautiously in inflammatory affections. For ordinary purposes it is sufficiently strong when diluted with an equal measure of water.

Wood.

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6. ROSE-WATER.

Take fresh hundred-leaved Roses *(Rosa centifolia)*	6 pounds.
Water	q. s.
Diluted Alcohol *(Spiritus tenuior)*	4 fl. ounces.

Pour on the roses so much water, that, after the distillation, sufficient may rem prevent empyreuma. Then distil a gallon, and add the diluted alcohol.

It should be observed that, in the nomenclature of the United States Pharmaco the term "Roses" implies only the petals of the flower. These are directed to be in the recent state; but when preserved by being incorporated with one third of weight of common salt, they retain their odor, and afford a water equally fragrant that prepared from the fresh flower.

Use.—Rose-water, when properly prepared, has the delightful perfume of the r great perfection. It is most successfully made on a large scale. Like the other dis waters, it is liable to spoil when kept; and the alcohol which is added to preserve incompatible with some of the purposes to which the water is applied, and is even to render it sour by promoting the acetous fermentation. It is best, therefore, to this addition, and to substitute a second distillation. This distilled water is chiefly ployed, on account of its pleasant odor, in collyria and other lotions. It is wholly d tute of irritating properties, unless when it contains alcohol. Wo

WINES.

Medicated Wines are made from either the juice of certain fruits properly ferment or are tinctures in which the menstruum is wine. The wine ordered to be employed the United States and British Pharmacopœias is Sherry. The solvent power of wi on vegetable products depends on the water and alcohol they contain; the other prin ples found in them are injurious to it as an excipient, the mucilage disposing to fermen tion, and the coloring matters and tannin often decomposing the active principles of t vegetable substances dissolved in it. On this account, these preparations are now gu out of use, and mixtures of alcohol and water, of the proper strength, substituted as s vents. These can always be made of definite strength, which can seldom be attain when wine is used.

Medicated wines are made by maceration or displacement. They should be kept well-closed bottles, and in a cool and dark place. Griffith

1. MALAGA WINE.

Take Common Raisins *(Vitis vinifera)*.......................... q. s.
Water... equal quantity.

Let it stand and soak for twenty-four hours. Then macerate thoroughly by beating put under a strong press and squeeze out the liquid; then add a small quantity of suga strain, put in a cask to ferment, and rack off and bottle.

Use.—This makes a very cheap and excellent wine, suitable for the *Restorative Bi ters.* It is a good tonic, and may be taken alone, in the same manner as Malaga or an other wine.

2. ELDER-BERRY WINE.

Take Elder-berries *(Sambucus canadensis)*.......................... 2 bushels.
Pure Water *(Aqua pura)*.................................. q. s.

Let it stand for forty-eight hours; then boil in a brass kettle for twenty minutes, an strain with sufficient pressure to obtain the juice without bruising the seeds (which woul impart a bitter taste to the wine); then return the liquid to the kettle, add twenty-fiv pounds of best loaf-sugar; stir it until all is melted, and again boil, carefully removin the scum. Cool off in a wooden vessel; when milk-warm, strain through a woolle strainer into the barrel in which it is intended to be kept, adding a slice of toasted yeast bread, and let it stand until it is done working, observing to place the barrel in such position that while fermenting it will work out of the bung. When done, add one ounc of American isinglass and ten gallons of fourth-proof French brandy, bung down close, and lay away in a good cellar until mid-winter; then rack off into another cask, and you will have a better wine than you can get from under the "locks of importers." WAMBAUGH

This forms an admirable menstruum for all our powdered compounds for bitters.

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3. ELDER-BERRY VINEGAR.

A superior wine-vinegar for medical use may be made by covering the berries (after the wine is pressed off) with rain-water, and letting it stand four days; then draw off into a vinegar-barrel, and add mother of old vinegar or brown paper dipped in yeast Set away in a warm place with a bottle in the bung. WAMBAUGH

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4. GINGER-WINE.

Take ginger-roots, green *(Amomum zingiber)*	q. s.

Make a strong decoction; sweeten with white sugar, add yeast, let it ferment, and decant.

Use.—This makes a valuable stimulating wine, and is excellent for our *Wine Bitters.*

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5. WINE OF WORMWOOD.

Take Wormwood *(Artemisia absinthium)*	2 parts.
White Wine	50 parts.

Mix, and digest four days; then express and filter.

Dose.—One fluid ounce.

Use.—This is a very good stomachic bitter, and may be also used as an anthelmintic.

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6. WINE OF COLCHICUM.

Take Colchicum seeds or roots, bruised *(Colchicum autumnale)*	4 ounces.
Sherry or Malaga Wine	1 quart.

Mix, and macerate for two weeks; then express and filter.

Dose.—Fifteen or twenty drops three times a day.

Use.—This wine is beneficial in gout and inflammatory rheumatism.

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7. WINE OF BRYONY.

Take Bryony-root, bruised *(Bryonia dioica)*	1 ounce.
White Wine	1 pint.

Mix, and boil gently; then filter.

Dose.—A wineglassful may be taken occasionally.

Use.—This preparation is useful in the treatment of dropsies, &c.

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8. WINE OF IPECACUANHA.

Take Ipecacuanha, bruised *(Cephaëlis ipecacuanha)*	1 ounce.
Teneriffe or Malaga Wine	1 pint.

Macerate for fourteen days, with occasional agitation, and filter through paper.

Dose.—The dose as an emetic, for an adult, is a fluid ounce; as an expectorant and diaphoretic, from ten to thirty drops. A fluid dram may be given as an emetic to a child one or two years old, and repeated every fifteen minutes till it operates.

Use.—Wine of ipecacuanha possesses all the virtues of the root, and may be used as a substitute when it is desirable to administer the medicine in a liquid form. As it is milder, without being less efficacious than antimonial wine, it is preferable as an emetic in infantile cases, especially as the antimonial is disposed to produce griping and irritation of the bowels. It may be used as an expectorant and diaphoretic.

ANTIDOTES TO CORROSIVE POISONS.

The denomination *corrosive* has been given by toxicological writers to those poiso which corrode, irritate, and inflame, the texture of the parts with which they come contact: and under this name are included the various preparations of mercury, coppe arsenic, zinc, gold and silver, &c.; the concentrated acids, viz., the sulphuric, nitri muriatic, phosphoric, &c.; and the various caustic alkalies, potash, soda, and ammoni caustic alkaline earths, lime, barytes, &c.

The general effect of corrosive poisons, when taken in small quantities, is to produc excitement of the brain and heart, temporary or durable, or to act as sedatives on thos organs, either to increase the customary secretions of the body, or to diminish them Taken in larger doses, they often destroy life very suddenly. In some cases the poison corrodes the membranes of the stomach, and, acting by sympatby on the brain, heart, and other organs, suspends their functions; in other cases, the poison is absorbed and carried to the brain: under different circumstances, death is the consequence of inflammation of the stomach, produced by the corrosive substance.

Symptoms.—The symptoms produced by this class of poisons depend upon either their chemical action upon the stomach and alimentary canal, or by their sympathetic action on the nervous and sanguiferous systems. These symptoms are more or less common to all the corrosive poisons, viz.: constriction and heat of the mouth, tongue, œsophagus, stomach, and intestines, accompanied with excruciating pain in those organs; severe nausea and vomiting, sometimes bloody; frequent, bloody stools, with or without tenesmus, stranguary, and dysuria; the pulse is usually small, hard, frequent, and often almost imperceptible; the extremities are sometimes of an icy coldness, or intensely hot; the thirst inextinguishable. Purple spots or miliary eruptions appear over the whole body; a sudden and great alteration of the countenance ensues; the faculties become depraved; loss of sight, with risus sardonicus and convulsions; and death speedily follows.

General Treatment.—The mode of treatment to be adopted, in cases of poisoning by corrosive substances, is, to endeavor to dilute and evacuate the poisonous substance as speedily as possible, by either emeitcs or the stomach-pump (this treatment, however, must in every case depend upon the nature of the poison taken, but the pump should not be resorted to except in instances of extreme urgency); and then to relieve the various symptoms by evacuants and anti-spasmodics; and by strictly employing the antiphlogistic method, to reduce inflammatory symptoms. In cases where antidotes can be safely given (as in cases of poisoning with oxalic acid), not a moment should be lost in administering them.

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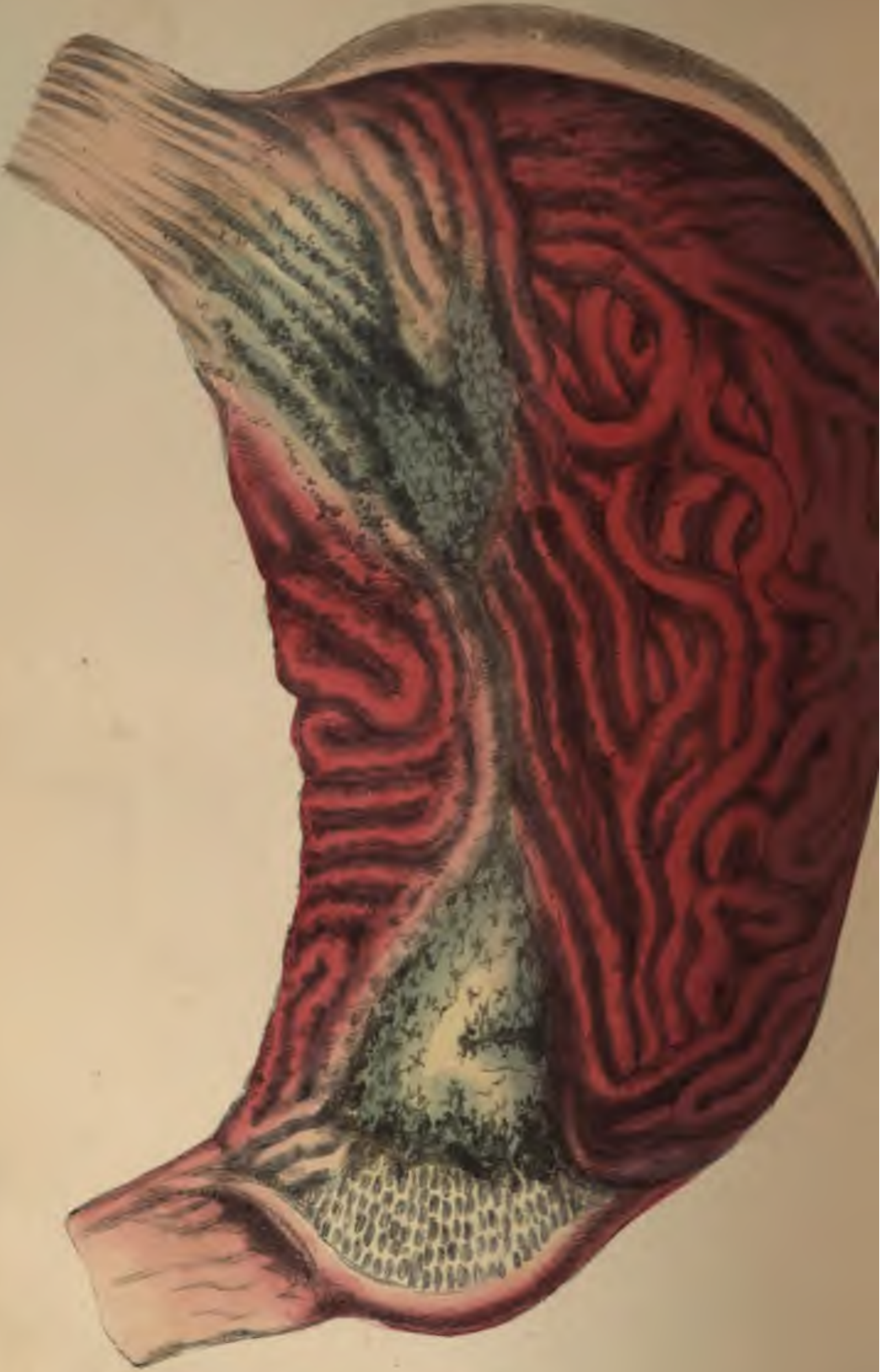
1. CORROSIVE SUBLIMATE.

(Hydrargyri Oxymurias.)

Treatment.—If eggs can be readily procured, the whites of several should be beaten up with water, and the patient should swallow several glassfuls of the liquor. If eggs can not be procured, he may take large draughts of sugared water, warm water at the temperature of 25 or 30°, or decoction of ulmus or marshmallow root or leaves, or any gelatinous broth. Our *Emetic Powders* should be administered to promote vomiting, by which a portion of the poison will be evacuated. Should symptoms of gastritis, enteritis, or peritonitis, supervene, the antiphlogistic treatment, both internal and external, should be had recourse to; emollient and anodyne clysters should be exhibited, and fomentations to the whole of the abdomen, and every other means usually employed to reduce inflammation.



Poison.

2. LEAD.

(Plumbum.)

Treatment.—In cases of poisoning with any of the salts of lead taken into the stomach (of which the most poisonous is the carbonate, or *white lead*, and the least so the acetate, or *sugar of lead)*, the best antidote is a solution of the sulphate of magnesia (this sulphate being a true antidote to the acetate of lead). The patient ought to take copious draughts of water, containing half an ounce of the sulphate of magnesia to a pint of water; or, if that is not to be had, soda or potash may be substituted. After which, castor-oil or senna, combined with jalap, sulphate of soda, and manna, may be administered; with anodyne, emollient, or cathartic clysters, according to circumstances.

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3. ARSENIC.

(Acidum Arseniosum.)

Treatment.—The means to be made use of in cases of poisoning by arsenic are nearly the same as those recommended for corrosive sublimate, namely, in administering large quantities of warm water, sweetened with sugar or honey; decoctions of mallow or linseed, to promote vomiting, as above, and by tickling the throat with the finger; where vomiting does not take place, recourse must be had to the stomach-pump. Inflammatory symptoms must be subdued by general means, as noticed under the head corrosive sublimate.

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4. COPPER.

(Cuprum.)

Treatment.—Rich solutions of sugar (which acts chemically upon the preparations of copper) in water should be copiously drank, by which means the deleterious action of the poison will be very much weakened, and the stomach, being filled with fluid, will greatly promote vomiting. If sugar can not be immediately procured, the patient must be plied with warm water, or even cold water, or with emollient decoctions (such as slippery elm, &c.), or broth, and vomiting promoted by irritating the throat with the finger or a feather. Emetics may be administered; the stomach-pump may be employed in those cases where vomiting can not be excited.

If the poison has been some time swallowed, and we may suppose already entered the intestinal canal, and if the patient has already vomited considerably, and has been laboring under violent colic, we must abstain from provoking the vomiting afresh, which would be useless, and even attended with danger. Cooling, mucilaginous, and oily drinks, ought to be employed, and continued until the principal symptoms be relieved. Where inflammation of the viscera has made its appearance, the antiphlogistic treatment, with warm baths, emollient fomentations, &c., must be vigorously employed.

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5. OXALIC ACID.

(Acidum Oxalicum.)

Treatment.—The first object should be to weaken the activity of the poison, by administering a mixture of chalk and water, or magnesia and water. (Chalk may be considered an antidote to oxalic acid, as it chemically combines with the acid, and forms an oxalate of lime which is perfectly inert. Magnesia also chemically combines with the oxalic acid and forms oxalate of magnesia, an inert substance, but more soluble than the oxalate of lime.) Should no spontaneous vomiting take place, the stomach-pump may be employed, or an emetic administered; but, previous to either, the chalk or magnesia and water should be given. No time should be lost in administering this antidote, the effects of the acid being so rapid, that little time is afforded for counteracting them by remedial arts. After the local effects of the poison have been counteracted, purgatives should be given to carry off the oxalate, and the patient supported by nourishing d cordials, and opium.

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7. HYDROCYANIC OR PRUSSIC ACID.

(Acidum Hydrocyanicum.)

Treatment.—The effects of prussic acid are in general so powerful, and prove quickly fatal, that little or no time is allowed for remedial agents. When, however, case admits, the most active stimulants (such as ammonia) should be instantly admi tered, with cold affusion, and the same treatment pursued as recommended in cases poisoning by the other narcotic poisons.

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8. CANTHARIDES OR SPANISH FLIES.

(Cantharis Vesicatoria.)

Treatment.—The free use of diluents, as milk, almond-emulsion, barley-water, a other mucilaginous drinks, should be immediately employed to moderate the action of t poison; while the various symptoms must be treated according to general principles.

Spratt.

REMARKS.

Under the head of Pharmacy, I have given a great variety of formulas. Thos added besides my own I have taken from the most reliable authorities. Among other sources, I have obtained several valuable recipes from Dr. J. Vere, of this city, talented co-laborer in the great cause of Medical Reform. In professing, as I do, to simplify the practice of medicine, it may be thought by some that the number of formulas presented is too large; but in our present state of pharmaceutical knowledge this seems indispensably necessary, owing to the great variety of symptoms presented, arising from the different stages of disease. For these reasons I have treated this branch of medicine very fully, by which the practitioner will be much better enabled to fulfil the indications arising in the treatment of the almost endless variety of diseases for which he may be called to prescribe. Thus, if one compound fails, he has other ample resources of which to avail himself. When the doctrine of simplification has sufficiently progressed, and the art of healing become perfected, the conclusion may be—*such a plant, duly prepared, removes such a symptom.*

SCIENTIFIC NAMES.	COMMON NAMES.	CLASS AND ORDER.	P'GE	LOCALITY.	PART USED.	PROPERTIES.	USES.	DOSES.
ALPINIA GRANA PARADISI	Grains of Paradise.	I.—1	35	Madagascar	Powdered seeds	Stimulant	Paralysis, and as an adjuvant	2—5 grs.
ALTHÆA OFFICINALIS	Marshmallow	XV.—13	232	Europe	Decoction	Emollient, demulcent	Coughs, nephritis, &c.	freely.
ALTHÆA ROSEA	Hollyhock	XV.—13	234	Spain	Flowers in infusion	Mucilaginous, emollient	Fluor-albus, colds, &c.	freely.
AMOMUM ZINGIBER	Ginger	I.—1	36	E. Indies	Root in powder	Stimulating, aromatic	Dyspepsia, flatulence, &c.	3—20 grs.
AMYGDALUS COMMUNIS	Almond	XI.—1	161	Syria	Oil	Demulcent, sedative	Coughs, urinary diseases	1—8 drams.
AMYGDALUS PERSICA	Peach	XI.—1	162	Persia	Leaves and bark in infusion.	Tonic, cathartic, diuretic	Leucorrhœa, debility	1—2 ozs.
ANAGALLIS ARVENSIS	Scarlet Pimpernel.	V.—1	56	Germany	Powdered herb	Tonic, diaphoretic	Hydrophobia	½ teaspoon.
ANCHUSA TINCTORIA	Alkanet	V.—1	56	S. Europe	Root	Astringent	To color oils, &c.	
ANDROMEDA ARBOREA	Sorrel-Tree	X.—1	145	America	Decoction of leaves	Refrigerant, febrile	Fevers, dropsy, &c.	
ANETHUM FŒNICULUM	Fennel	V.—2	89	Spain	Powdered seeds	Stomachic, carminative	Colics, flatulency	1—3 scrup.
ANETHUM GRAVEOLENS	Dill	V.—2	89	Spain	Powdered seeds	Carminative, stomachic, Sti.	Dyspepsia, flatulency	10 grs. to dr.
ANEMONE PRATENSIS	Pasque-Flower	II.—13	196	Europe	Leaves and flowers	Herpetic	Tinea capitis, &c.	app. to parts
ANGELICA ARCHANGELICA	Garden Angelica	V.—2	90	N. Europe	Root	Tonic, stimulant, sudorific	Dyspepsia, &c.	30 grs. to dr.
ANGELICA ATROPURPUREA	Angelica	V.—2	90	America	Root in infusion	Stimulant, aromatic, Car.	Chlorosis, hysteria, &c.	1 ounce.
ANTHEMIS COTULA	Mayweed	XVII.—2	253	America	Herb in infusion	Tonic, sudorific, stimulant	Rheumatism, fevers, &c.	1—2 ounces.
ANTHEMIS NOBILIS	Chamomile	XVII.—2	253	S. Europe	Flowers	Tonic, sudorific, stimulant	Fevers, consumption, &c.	1—2 ounces.
ANTHEMIS PYRETHRUM	Pellitory of Spain	XVII.—2	254	S. Europe	Root	Sialagogue	Toothache, lethargy, &c.	
ANTIRRHINUM LINARIA	Toad-Flax	XIII.—2	220	Europe	Herb in infusion	Diuretic, cathartic	Dropsy, jaundice	
APHANES ARVENSIS	Parsley-Piert	IV.—2	54	Europe	Herb in infusion	Lithontriptic, tonic	Gravel, and urinary diseases	gill 3 ti. day.
APIUM PETROSELINUM	Parsley	V.—2	91	S. Europe	Root and leaves in infusion.	Diuretic, aperient	Dropsy, and urinary diseases	freely.
APOCYNUM CANNABINUM	Bitter-root	XVIII.—5	276	America	Powdered root	Emetic, cathartic, tonic	Dyspepsia, dropsy, &c.	2—30 grs.
APOCYNUM SYRIACA	Milkweed	XVIII.—5	279	America	Root in decoction	Diuretic, sudorific, Emm.	Dropsy, gravel, &c.	1 gill.
ARALIA HISPIDA	Dwarf Elder	V.—5	111	America	Root and bark in decoction.	Detergent, diuretic	Dropsy, and urinary diseases	1 gill.
ARALIA NUDICAULIS	Am'can Sarsaparilla	V.—5	111	America	Root in sirup or infusion	Detergent, balsamic, &c.	Syphilis, and cutaneous diseases	1—4 ounces.
ARALIA RACEMOSA	Spikenard	V.—5	112	America	Root in decoction	Pectoral, stimulant	Syphilis, rheumatism, coughs	1—4 ounces.
ARBUTUS UVA-URSI	Bear-berry	X.—1	146	America	Leaves	Astringent, tonic, diuretic	Calculus, and diseases of the kidneys	5—25 grs.
ARCTIUM LAPPA	Burdock	XVII.—1	243	Europe	Root in decoction	Alterative, diuretic	Diseases of the skin and kidneys	1—4 ounces.
ARISTOLOCHIA SE'PENTARIA	Virginia Snake-root	XVIII—6	279	America	Powdered root	Tonic, diaphoretic, stimulant	Dyspepsia, typhus and bilious dis's.	10—20 grs.
ARNICA MONTANA	Mountain Arnica	XVII.—2	255	Europe	Flowers and roots	Nar., diaphoretic, stimulant.	Paralysis, rheumatism	5—10 grs.
ARTEMISIA ABROTANUM	Southern-wood	XVII.—2	256	Europe	Tops and leaves	Sti., anthelmintic, sudorific.	Worms and cutaneous diseases	1—2 teasp'n.
ARTEMISIA ABSYNTHIUM	Wormwood	XVII.—2	257	Europe	Tops and leaves	Stimulant, tonic	Amenorrhœa, dyspepsia, &c.	1—3 drams.
ARUM TRIPHYLLUM	Wild Turnip	XIX.—12	285	N. America.	Root pulverized	Stimulant, pectoral	Coughs, asthma, colic	10—15 grs.
ASARUM CANADENSE	Canada Snake-root.	XI.—1	159	N. America.	Tincture of the root	Herpetic, aromatic, nervine.	Aromatic, stimulant, diaphoretic	
ASCLEPIAS SYRIACA	Milkweed	XVIII.—5	279	N. America.	Root in decoction	Diu., sudorific, Emm.	Dropsy and gravelly disorders	1 gill.
ASCLEPIAS TUBEROSA	Pleurisy-root	XVIII.—5	277	N. America.	Powdered root	Dia, expectorant, Car.	Pleurisy, consumption, &c.	20—30 grs.

SCIENTIFIC NAMES.	COMMON NAMES.	CLASS AND ORDER.	P'GE	LOCALITY.	PART USED.	PROPERTIES.	USES.	DOSES.
ASPARAGUS OFFICINALIS	Asparagus	VI.—1	120	S. Europe	Root in decoction	Diu., aperient, deobstruent.	Calculus, dropsy, &c	freely.
ASPIDIUM FILIX-FŒMINA	Female Fern	XXI.—1	312	N. America	Root in powder	Tonic, Ast., anthelmintic	Worms	2—3 drams.
ASPIDIUM FILIX-MAS	Male Fern	XXI.—1	312	N. America	Root in powder	Tonic, Ast., anthelmintic	Worms	2—3 drams.
ASPLENIUM EBENEUM	Spleenwort	XXI.—1	314	N. America	Leaves in infusion	Pectoral, aperient, diuretic.	Consumption, coughs, gravel	freely.
ASTER PUNICEUS	Cocash	XVII.—2	258	N. America	Fib. roots and leaves in inf.	Stimulant, diaphoretic, &c.	Rheumatism, colds, and debility	freely.
ATROPA BELLADONNA	Deadly Nightshade.	V.—1	57	Europe	Extract	Narcotic, acrid	Scirrhus, cancer, neuralgia	app. exter'y
BAPTISIA TINCTORIA	Wild Indigo	X.—1	147	N. America	Decoction of herb	Astringent, antiseptic, Sti.	Rheumatism, pneumonia.	4 drams.
BERBERIS VULGARIS	Barberry	VI.—1	121	N. America	Powdered bark	Tonic, cathartic, antiseptic.	Dysentery, malig. fevers, sore-throat	½—1 teasp'n
BORAGO OFFICINALIS	Borage	V.—1	58	Europe	Herb in infusion	Stom., diaphoretic, Dem.	Catar'l, rheum't, and cutane's dise's	freely.
BOTRYCHIUM FUMAROIDES	Consumption-brake.	XXI.—1	315	N. America.	Root in decoction	Stimulant, tonic	Consumption, diarrhœa	discretion'y
CALENDULA OFFICINALIS	Marigold	XVII.—4	272	S. Europe	Flowers in infusion	Stomachic, aromatic	Eruptions, ophthalmia, vertigo	1 gill.
CAPSICUM ANNUUM	Red Pepper,	V.—1	58	S. America.	Pods in infusion	Sti., stomachic, rubefacient.	Colic, pains, sore-throat	topic'ly app.
CAPSICUM BACCATUM	Bird-Pepper	V.—1	59	Africa	Pods in powder	Stimulant, Car., tonic	Rheumatism, typhus, flatulency, &c.	6—12 grs.
CARTHAMUS TINCTORIUS	Garden Saffron	XVII.—1	244	The Levant	Florets in infusion	Tonic, diaphoretic, laxative.	Measles, scarlatina, &c	freely.
CARUM CARUI	Caraway	V.—2	92	N. Europe	Seeds in powder	Carminative, aromatic	Flatulency, colics, &c	1 scr.—1 dr.
CASSIA MARILANDICA	American Senna	X.—1	148	N. America	Infusion of leaves	Cathartic, deobstruent	In cathartic compounds	
CASSIA SENNA	Alexandria Senna	X.—1	149	Egypt	Infusion of leaves	Cathartic	In cathartic compounds	
CAULOPHYLLUM THALICTR'S	Papoose-root	VI.—1	122	N. America.	Root in infusion	Demulcent, A-spas-, Emm.	Rheumatism, amenorrhœa	1 gill.
CEANOTHUS AMERICANUS	New-Jersey Tea	V.—1	61	N. America.	Bark of the root in decoction	Ast., diuretic, tonic, Exp.	Syphilis, epilepsy, asthma	1 gill.
CELASTRUS SCANDENS	Bittersweet	V.—1	61	N. America.	Bark of the root in decoction	Detergent, tonic, resolvent.	Cutaneous disorders, liver-compla't	1 gill.
CENTAUREA BENEDICTA	Blessed Thistle	XVII.—3	269	S. Europe	Leaves in infusion	Tonic, diaphoretic, diuretic.	Fevers, dyspepsia, &c	2 ounces.
CEPHAELIS IPECACUANHA	Ipecacuanha	V.—1	62	S. America.	Root in powder	Emm., stimulant, tonic, Dia.	Bilious, liver-complaints, &c	5—30 grs.
CERASTIUM VULGATUM	Chickweed	X.—5	157	N. America.	Herb in ointment	Emollient, refrigerant	Inflammatory swellings	freely.
CETRARIA ISLANDICA	Iceland Moss	XXI.—5	319	N. Europe	Herb in infusion	Nutritive, demulcent	Coughs. phthisis, fevers	1—2 ounces.
CHELIDONIUM MAJUS	Garden Celandine	XII.—1	177	N. Europe	Tincture or ointment	Stimulant, detergent, A-scor.	Piles, scurvy, ulcers	app. locally.
CHELONE GLABRA....[TICUM	Balmony	XIII.—2	220	N. America.	Weak infusion	Antibilious, tonic, Det., Lax.	Liver-complaint, jaundice	freely.
CHENOPODIUM ANTHELMIN-	Wormseed	V.—2	92	N. America.	Seeds in powder	Anthelmintic	Worms	1 teaspoon.
CHENOPODIUM BOTRYS	Oak of Jerusalem	V.—2	93	N. America.	Plant in infusion	Ver., pectoral, Sto., Car.	Asthma, phthisis, coughs	1 ounce.
CHIMAPHILA UMBELLATA	Prince's Pine	X.—1	149	N. America.	Decoction	Diuretic, Sti, Det., tonic	Gravel, scrofula, &c	1—2 ounces.
CHIOCOCCA ANGUIFUGA	Cainca-root	V.—1	340	Brazil	Decoction	Diuretic, emmenagogue	Dropsy, obstructions	1 dram.
CHRYSANTHEMUM L'UCAN'M	Ox-eye Daisy	XVII.—2	259	Europe	Flowers in infusion	Diu., vulnerary, sudorific	Dropsy, asthma, tinea	1—2 ounces.
CHRYSANTH'M PARTHENIUM	Feverfew	XVII.—2	259	S. Europe	Leaves in infusion	Aperient, Car., tonic, Ner.	Hysterics, obstructed menses	freely.
CICHARIUM INTYBUS	Endive	XVII.—1	245	S. Europe	Root and leaf in decoction	Aperient, Deo., tonic, Diu.	Liver and bilious complaints	1 ounce.

SCIENTIFIC NAMES.	COMMON NAMES.	CLASS AND ORDER.	P'GE	LOCALITY.	PART USED.	PROPERTIES.	USES.	DOSES.
CINCHONA CORDIFOLIA, &c.	Peruvian Bark	V.—1	63	S. America.	Bark in powder	Tonic, astringent, febrifuge.	Intermittents and fevers	1—10 drams.
CISTUS CANADENSIS	Frostwort	XII.—1	178	N. America.	Leaves in infusion	Astringent, tonic, A-scor.	Scrofulous humors	freely.
CITRUS AURANTIUM	Orange	XII.—1	178	India	Rind in powder	Tonic, Sto., stimulant, Car.	Dyspepsia, nausea	4—8 scrup's.
CITRUS MEDICA	Lemon	XII.—1	179	Asia	Diluted juice	Refrigerant, stomachic	Fevers, scurvy, jaundice	freely.
CLEMATIS VIRGINICA	Virgin's Bower	XII.—1	197	N. America	Leaves in weak infusion	Diuretic, diaphoretic	Syphilis, cancerous ulcers	2—4 ounces.
COCCULUS PALMATUS	Columbo	XX.—6	300	Africa	Powdered root	Tonic, stomachic	Dyspepsia, cholera	12—15 grs.
COCHLEARIA ARMORACIA	Horse-Radish	XIV.—1	226	Europe	Root in cold infusion	Diuretic, Rub., Sti., A-scor.	Dropsical complaints	wineglass.
COCHLEARIA OFFICINALIS	Scurvy-Grass	XIV.—1	227	N. America	Expressed juice	Antiscorbutic, stimulant	Scorbutic affections	1 gill.
COFFEA ARABICA	Coffee	V.—1	459	Arabia	Roasted berries infused	A-spas., stimulant, tonic	Diarrhœa, cholera, hysteria	1 teacupful.
COIX LACHRYMA	Job's Tears	XIX.—3	283	N. America	Bruised seeds infused	Diuretic	Dropsical complaints	discretion'y
COLCHICUM AUTUMNALE	Colchicum	VI.—3	123	S. Europe.	Cormus	Narcotic, diuretic, cathartic.	Gout, rheumatism	discretion'y
COLLINSONIA CANADENSIS	Stone-root	II.—1	37	N. America	Root in decoction	Diuretic, stomachic, tonic	Dropsical affections	freely.
COMPTONIA ASPLENIFOLIA	Sweet-Fern	XIX.—3	283	N. America	Decoction of the leaves	Astringent, Sti., tonic, Exp.	Diarrhœa, bowel-complaints	1 wineglass.
CONVOLLARIA MAJALIS	Lily of the Valley	VI.—1	123	N. America.	Powdered root or flowers	Err., narcotic, antispasmodic	Headaches, &c.	as snuff.
CONVOLLARIA MULTIFLORA.	Solomon's Seal	VI.—1	123	N. America.	In sirup	Tonic, corroborant, Dem.	Fluor-albus and female weaknesses.	1 wineglass.
CONVOLLARIA RACEMOSA	Small Solom's Seal.	VI.—1	123	N. America.	In sirup	Tonic, corroborant, Dem.	Fluor-albus and female weaknesses.	1 wineglass.
CONVOLVULUS PANDURATUS	Bindweed	V.—1	67	N. America.	Extract	Cathartic, Diu., tonic, Pec.	Dyspepsia, gravel, dropsy	10—12 grs.
CONVOLVULUS SCAMMONIA	Scammony	V.—1	67	Syria	Inspissated juice	Cathartic, hydragogue	Dropsy, worms	3—12 grs.
COPAIFERA OFFICINALIS	Copaiba	X.—1	321	S. America.	Balsam	Stimulant, diuretic, Ast.	Gonorrhœa, fluor-albus, &c.	10—20 drops
CORALLORHIZA ODONTORHI-	Crawley	XVIII.—1	273	N. America.	Root in powder	Diaphoretic	Fevers, pleurisy	1 teaspoon.
CORIANDRUM SATIVUM...[ZA	Coriander	V.—2	95	Europe	Seeds in powder	Carminative, stomachic	Flatulency, colics	½—1 dram.
CORNUS CIRCINATA	Green Osier	IV.—1	48	N. America.	Bark in infusion	A-scor., astringent, tonic	Salt-rheum, scrofula, itch	1 wineglass.
CORNUS FLORIDA	Boxwood	IV.—1	49	N. America	Powdered bark	Tonic, astringent, antiseptic	Intermittents, jaundice	1—3 scrup.
CORNUS ROSTRATA	Rose-Willow	IV.—1	50	N. America.	Bark in infusion	Astringent, tonic	Fluor-albus, dyspepsia	3—4 ounces.
CORYDALIS FORMOSA	Turkey-Corn	XVI.—5	234	N. America.	Infusion	Tonic, stomachic, alterative.	Dyspepsia, syphilis	1—2 drams.
CORYLIS ROSTRATA	Beaked Hazel	XIX.—12	342	N. America	Hairs of the pods	Vermifuge	Worms	discretion'y
CROCUS SATIVUS	True Saffron	III.—1	46	Europe	Stigmas	Anodyne, A-spas., Emm.	Chlorosis, hysteria, &c.	12 grains.
CROTON ELEUTHERIA	Cascarilla	XIX.—15	289	Bahamas	Bark in powder	Stimulant, Sto., aromatic	Dyspepsia, colic, dysentery	1—1½ drams.
CROTON TIGLIUM	Croton-Plant	XIX.—15	291	Moluccas	Oil of the seeds	Cathartic, hydragogue	Dropsy, apoplexy, mania	1—2 drops.
CUCUMIS COLOCYNTHIS	Colocynth	XIX.—15	323	C.G'd Hope	Pulp	Cathartic, drastic	Dropsy, mania	5—10 grs.
CUNILA MARIANA	American Dittany	XIII.—1	207	N. America.	Infusion	Stimulant, nervine, sudorific	Hysteria, nervous headache	freely.
CURCUBITA PEPO	Pumpkin	XIX.—15	293	Europe	Oil of the seeds	Diuretic	Dropsy and urinary affections	6—12 drops.
CURCUMA ZEDOARIA	Zedoary	I.—1	36	Ceylon	Root	Car., tonic, stomachic, Deo.	Flatulency, colic, hysteria	10—30 grs.
CYPRIPEDIUM PUBESCENS	Lady's Slipper	XVIII.—2	275	N. America.	Powdered root	Nervine, sedative, A-spas.	Epilepsy, tremors, nervous fevers	1 teaspoon.

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DAPHNE MEZEREUM	Mezereon	VIII.—1	136	N. America.	Bark of the root in decoction	Stimulant, diaphoretic	Rheumatism, lepra, ulcers	4—6 ounces.
DATURA STRAMONIUM	Thorn-Apple	V.—1	68	N. America.	Leaves in powder	Nar., discutient, acrid	Epilepsy, mania, asthma	1—20 grs.
DAUCUS CAROTA	Wild Carrot	V.—2	96	Europe	Seeds in decoction	Diuretic, stomachic, Sti.	Gravel, dropsy, dyspepsia	freely.
DELPHINIUM CONSOLIDA	Larkspur	XII.—3	193	Europe	Seeds in tincture.	Diuretic, Emm., vermifuge.	Spasmodic asthma, dropsy	10—12 drops
DELPHINIUM STAPHISAGRIA.	Stavesacre	XII.—3	193	S. Europe	Powdered seeds	Acrid, herpetic	Scabies, lice	exter'y app.
DIERVILLA CANADENSIS	Bush-Honeysuckle.	V.—1	70	N. America.	Cold infusion	Diuretic, refrigerant	Gravel and kidney-diseases	freely.
DIGITALIS PURPUREA	Foxglove	XIII.—2	221	Europe	Leaves in powder	Diuretic, sedative, narcotic.	Dropsy, phthisis	1—3 grs.
DIOSCOREA VILLOSA	Yam-root	XX.—6	301	N. America.	Root in decoction	A-spas., Ano., diaphoretic	Bilious colic	½ teacupful.
DIOSMA CRENATA	Buchu	V.—1.	70	C. G. Hope.	Leaves in powder	Sudorific, Diu., Dia., Sti.	Dropsy, gravel, catarrhus ves.	20—30 grs.
DIOSPYRUS VIRGINIANA	Persimmon	XX.—12	305	N. America.	Bark in infusion	Astringent, bitter	Diarrhœa, intermittents	1—2 drams.
DIRCA PALUSTRIS [SE.	Leatherwood	VIII.—1	136	N. America.	Bark in tincture	Emetic, cathartic, Rub.	Dyspepsia, gastric diseases	small doses.
DRACOCEPH'LUM CANARIEN-	Moldavian Balm	XIII.—1	208	Canary isl's	Infusion	Diaphoretic, Ner., resolvent.	Headache, atrophy	1 teacupful.
EPIDENDRUM VANILLA	Vanilla-Bean	XVIII.—1	273	W. Indies	Infusion of the pods	Ner., stimulant, diaphoretic.	Hysteria, low fevers	tablespoonf.
EPIGÆA REPENS	Gravel-Plant	X.—1	150	N. America.	Decoction	Powerfully diuretic	Gravel, stone, dropsy	1—2 drams.
EPIPHEGUS VIRGINIANUS	Beech-drops	XIII.—2	223	N. America.	Powdered plant	Astringent	Ulcers and cancerous affections	exter'y app.
ERIGERON CANADENSE	Fleabane	XVII.—2	260	N. America.	Infusion.	Stimulant, tonic, diuretic	Diarrhœa, cholera, colic	1 teacupful.
ERIGERON HETEROPHYL'UM	Sweet Scabious	XVII.—2	260	N. America.	Tincture	Diuretic, astringent	Diseases of the bladder and kidneys	1—2 drams.
ERIGERON PHIL'DELPHICUM	Philadel'a Fleabane	XVII.—2	261	N. America.	Infusion	Diuretic	Diseases of the bladder and kidneys	1 teacupful.
ERYNGIUM OVALIFOLIUM	Sea-Holly	V.—2	97	N. America.	Decoction	Sto., tonic, stimulant, Exp.	Debilitated habits	1 teacupful.
ERYTHRÆA CENTAURIUM	European Centaury	V.—1	71	Europe	Infusion	Stomachic, tonic, A-sep.	Dyspepsia, intermittents	1 wineglass
EUGENIA CARYOPHYLLATA	Cloves	XII.—1	180	Moluccas	Flower-buds	Aromatic, stimulant, Car.	Dyspepsia, atonic gout	10—15 grs.
EUONYMOUS ATROPURPUR'S.	Spindle-bush	V.—1.	71	N. America.	Bark of the root in decoction	Expectorant, Dia., laxative.	Pulmonary diseases	freely.
EUPATORIUM AGERATOIDES.	White Sanicle	XVII.—1	245	N. America.	Decoction of the root	Dia., A-spas., nervine	Inflammation of the lungs, pleurisy.	2—4 drams.
EUPATORIUM PERFOLIATUM.	Boneset	XVII.—1	246	N. America.	Infusion	Dia., laxative, Exp., tonic	Fevers, dyspepsia	1 teacupful.
EUPATORIUM PURPUREUM	Purple Boneset	XVII.—1	248	N. America.	Infusion	Diuretic, nervine, tonic	Gravel, dropsy	freely.
EUPHORBIA CAROLLATA	Blooming Spurge	XIX.—1	281	N. America.	Root in powder	Eme., cathartic, diaphoretic.	Not much used	10—20 grs.
EUPHORBIA IPECACUANHA	Ipecacuanha	XIX.—1	282	N. America.	Root in powder	Emetic, cathartic, Diu., tonic	Dropsy, dysentery, bilious colic	12—15 grs.
EUPHRASIA OFFICINALIS	Eye-bright	XIII.—2	223	N. America.	Decoction	Astringent, tonic	Weak and inflamed eyes	as a wash.
FAGUS FERRUGINEA	Beech	XIX.—12	287	N. America.	Decoction of the bark	Ast., herpetic, detergent	Diabetes, dyspeptic affections	1 wineglass
FRAGERIA VESCA	Strawberry	XI.—13	170	N. America.	Fruit	Refrigerant, Dia., diuretic	Fevers, gravel, gout	freely.
FRASERA CAROLINENSIS	American Columbo.	IV.—1	51	N. America.	Powdered root	Tonic, antiseptic, febrifuge.	Fevers, indigestion, jaundice	30—60 grs.
FUCUS VESICULOSUS	Seaweed	XXI.—4	317	N. America.	Mucus of the vesicles	Discutient, resolvent	Scrofulous tumors	as a wash.
FUMARIA OFFICINALIS	Fumitory	XVI.—5	233	S. Europe	Leaves in decoction	Tonic, laxative, diuretic	Scorbutic and liver affections	freely.

SCIENTIFIC NAMES.	COMMON NAMES.	CLASS AND ORDER.	P'GE	LOCALITY.	PART USED.	PROPERTIES.	USES.	DOSES.
GALIUM APARINE	Cleavers	IV.—1	51	N. America.	Cold infusion	Diuretic, Dis., tonic, Sud.	Gravel, kidney-complaints	freely.
GARCINIA COCHINCHINENSIS	Gamboge	XIX.—15	338	Ceylon	Gum-resin	Drastic, cathartic	Dropsical affections	2—5 grs.
GAULTHERIA PROCUMBENS	Wintergreen	X.—1	150	N. America.	Infusion	Sti., Ner., astringent, Emm.	Difficult menstruation, debility	1 teacupful.
GENISTA TINCTORIA	Dyer's-Broom	XVI.—10	238	S. Europe	Infusion of tops and seeds	Cathartic, emetic, diuretic	Dropsical diseases	freely.
GENTIANA CATESBÆI	Samson Snake-root.	V.—2	100	N. America.	Infusion	Stomachic, tonic, astringent.	Dyspepsia, pneumonia	tablespoonf.
GENTIANA CHIRAYITA	Chirayta	V.—2	341	India	Tincture of the roots.	Tonic, stomachic	Dyspepsia, intermittents	1 teaspoon.
GENTIANA LUTEA	Gentian	V.—2	99	N. America.	Root in infusion	Tonic, stomachic	Gout, jaundice, dyspepsia	1 ounce.
GENTIANA QUINQUEFLORA	Bitter Plantain	V.—2	101	N. America.	Infusion	Stomachic, tonic, astringent.	Dyspepsia, pneumonia	tablespoonf.
GERANIUM MACULATUM	Cranesbill	XV.—10	231	N. America.	Powdered root	Astringent, tonic, antiseptic.	Dysentery, diarrhœa, cholera	15—25 grs.
GERARDIA PEDICULARIA	Fever-weed	XIII.—2	224	N. America.	Infusion	Febrifuge, Dia., sudorific	Fevers, inflammations	freely.
GEUM VIRGINIANUM	Avens	XI.—13	171	N. America.	Powdered root	Astringent, tonic, Feb., Sto.	Hemoptysis, phthisis	15—20 grs.
GILLENIA TRIFOLIATA	Indian Physic	XI.—5	167	N. America.	Powdered bark of the root.	Tonic, laxative, emetic	Dyspepsia, costiveness	5—10 grs.
GLECHOMA HEDERACEA	Ground Ivy	XIII.—1	208	N. America.	Infusion	Stimulant, tonic, pectoral	Diseases of the lungs and kidneys	1 teacupful.
GLYCYRRHIZA GLABRA	Licorice	XVI.—10	239	S. Europe	Extract	Emollient, demulcent	Pectoral complaints	½ ounce.
GNAPHAL'M POLYCEPHALUM	Life-everlasting	XVII.—2	262	N. America.	Infusion	Diaphoretic, sudorific	Colds, fevers, and influenza	freely.
GNAPHALIUM ULIGINOSUM	Mouse-Ear	XVII.—2	263	N. America.	Infusion	Diaphoretic, sudorific	Colds, fevers, and influenza	freely.
GOODYERA PUBESCENS	Spotted Plantain	XVIII.—1	274	N. America.	Decoction	Antiscorbutic, detergent	Scrofulous affections	1—4 drams.
HAMAMELIS VIRGINICA	Witch-Hazel	IV.—2	55	N. America.	Decoction	Sed., tonic, astringent, Dis.	Ulcers, sores, prolapsus	wash & ene.
HEDEOMA PULEGIOIDES	Pennyroyal	XIII —1	209	N. America.	Infusion	Car., stimulant, Dia., Emm.	Suppression of menses, colds	freely.
HELENIUM AUTUMNALE	Sneezewort	XVII.—2	263	N. America.	Powdered herb	Tonic, febrifuge, errhine	Amaurosis, headache	as a snuff.
HELIANTHUS ANNUUS	Sunflower	XVII.—3	270	Europe	Leaves in powder	Carminative, antispasmodic.	Flatulency, colic	15—20 grs.
HELIANTHUS DIVARICATUS	Wild Sunflower	XVII.—3	271	N. America.	Leaves in powder	Car., antispasmodic, Lax.	Bilious colic, hysteria	10—15 grs.
HELLEBORUS FŒTIDUS	Fetid Hellebore	XII.—13	198	N. America.	Root in sirup	Acrid, cathartic, emetic	Worms	discretion'y
HELLEBORUS NIGER	Black Hellebore	XII.—13	199	N. America.	Powdered root	Cathartic, emmenagogue	Mania, dropsy, obstructions	10—30 grs.
HELONIAS DIOICIA	Unicorn-root	IV.—3	128	N. America.	Root in powder	Tonic. corroborant	Dyspepsia, stomach-complaints	½ teaspoon.
HEPATICA TRILOBA	Liverwort	XII.—13	200	N. America.	Leaves in infusion	Tonic, Deob., Pec., Dem.	Liver-complaints, hypochondria	freely.
HERACLIUM LANATUM	Masterwort	V.—2	101	N. America.	Powdered root	Aro., stimulant, Car., Exp.	Colic, flatulency, asthma	1 dram.
HEUCHERIA ACERIFOLIA	Alum-root	V.—2	101	N. America.	Powdered root	Ast., Sty., antiseptic, Det.	Hemorrhage, sores, ulcers	app. exter'y
HUMULUS LUPULUS	Hop	XX.—5	298	Europe	Flowers infused	Tonic, anodyne, sedative	Dyspepsia, nervous complaints	2—3 ounces.
HYDRASTIS CANADENSIS	Golden Seal	XII.—13	201	N. America.	Powdered root	Tonic, laxative, stimulant	Dyspepsia, bilious habits	10—12 grs.
HYOSCIAMUS NIGER	Black Henbane	V.—1	72	Europe	Extract	Narcotic	Epilepsy, nervous affections	1—2 grs.
HYPERICUM PERFORATUM	Johnswort	XII.—5	194	N. America.	Infusion	Vul., Pec., nervine, sudorific	Colds, hysteria, coughs	freely.
HYSSOPUS OFFICINALIS	Hyssop	XIII.—1	210	S. Europe	Infusion	Stimulant, pectoral, Exp.	Colds, coughs, phthisis	freely.

SCIENTIFIC NAMES.	COMMON NAMES.	CLASS AND ORDER.	P'GE	LOCALITY.	PART USED.	PROPERTIES.	USES	DOSES.
ICTODES FŒTIDA	Skunk-Cabbage	IV.—1	52	N. America.	Powdered root	Exp., tonic, Ner., A-spas.	Coughs, catarrh, hysteria	1 teaspoon.
INDIGOFERA TINCTORIA	Indigo-plant	XVI.—10	240	India	Indigo.	Nervine, A-spas., Anthel.	Epilepsy, hysteria, worms	5—30 grs.
INULA HELENIUM	Elecampane	XVII.—2	264	N. America.	Powdered root	Tonic, diuretic, pulmonary	Coughs, phthisis, indigestion	½—1 ounce.
IPOMEA JALAPA	Jalap	V.—1	74	S. America.	Powdered root	Cathartic, hydragogue	Billous and dropsical complaints	10—30 grs.
IRIS FLORENTINA	Orris-root	III.—1	45	S. Europe	Powdered root	Cath., diuretic, Emm., Pec.	Dropsies, coughs	10—15 grs.
IRIS VERSICOLOR	Blue Flag	III.—1	45	N. America.	Powdered root	Emetic, Cath., Sti., Alt.	Venereal and herpetic diseases	15—20 grs.
JEFFERSONIA DIPHYLLA	Twin-leaf	VIII.—1	137	N. America.	Powdered root	Stimulant, diaphoretic, Diu.	Rheumatism, fluor-albus, gleet	1—2 scrup's.
JUGLANS CINERIA	Butternut	XIX.—12	287	N. America.	Extract	Cathartic	Indigestion, costiveness	15—30 grs.
JUGLANS REGIA	Madeira-nut	XIX.—12	342	Persia	Leaves in infusion	Antiscorbutic	Scrofulous affections	1 teacupful.
JUNIPERUS COMMUNIS	Juniper	XX.—15	306	N. America.	Berries in infusion	Stimulant, diuretic, A-scor.	Dropsy, urinary diseases, scurvy	1 teacupful.
JUNIPERUS SABINA	Savin	XX.—15	308	N. America.	Leaves in powder	Emmenagogue, stimulant	Uterine obstructions	1—2 scrup's.
JUNIPERUS VIRGINIANA	Red Cedar	XX.—15	310	N. America.	Leaves in powder	Stimulant, Dia., Emm.	Rheumatism, obstructions	10—12 grs.
KALMIA LATIFOLIA	Laurel	X.—1	151	N. America.	Leaves in powder	Narcotic, errhine, herpetic	Catarrh, tinea-capitis	discretion'y
LACTUCA ELONGATA	Wild Lettuce	XVII.—1	248	N. America.	Extract	Anodyne, Dia., Lax., Diu.	Dropsy, ascites, phthisis	5—15 grs.
LACTUCA SATIVA	Garden Lettuce	XVII.—1	249	Europe	Extract	Anodyne, sedative	Hypochondria, phthisis	10—20 grs.
LAURUS BENZOIN	Spice-bush	IX.—1	141	N. America.	Infusion	Stimulant, tonic	Fevers, intermittents	3—4 ounces.
LAURUS CAMPHORA	Camphor	IX.—1	141	China	Gum	Stimulant, sudorific, A-spas.	Cholera, low fevers	2—10 grs.
LAURUS CINNAMOMUM	Cinnamon	IX.—1	142	E. & W. In's	Bark	Aromatic, Sti., Car., tonic	Bowel-complaints	12—20 grs.
LAURUS SASSAFRAS	Sassafras	IX.—1	143	N. America.	Bark of the root infused	Stimulant, Dia., diuretic	Rheumatism, gout	freely.
LAVENDULA SPICA	Lavender	XIII.—1	210	S. Europe	Leaves in powder	Stimulant. Car., Pec., Ner.	Nervous affections	1—3 scrup's.
LEDUM LATIFOLIUM	Labrador Tea	X.—1	153	N. America.	Infusion	Pectoral, demulcent	Hooping-cough, dysentery	freely.
LEONTODON TARÁXICUM	Dandelion	XVII.—1	250	N. America.	Extract	Tonic, aperient, diuretic	Liver-complaints, dyspepsia	10—30 grs.
LEONORUS CARDIACA	Motherwort	XIII.—1	211	N. America.	Infusion	A-spas., Emm., tonic, Dia.	Hysteria, nervous affections	freely.
LEPTANDRIA VIRGINICA	Culver's-root	II.—1	37	N. America.	Powdered root	Cathartic, tonic, Diu., Alt.	Dyspepsia, debility, dropsy	1 teaspoon.
LIATRIS SPICATA	Button Snake-root	XVII.—1	251	N. America.	Wine-tincture	Stimulant, diuretic, tonic	Digestive and urinary complaints	tablespoonf.
LIGUSTICUM LEVISTICUM	Lovage	V.—2	102	S. Europe	Seeds	Stimulant, Car., Dia., Emm.	Hysteria, nervous affections	10—20 grs.
LILIUM CANDIDUM	White Lily	VI.—1	124	Asia	Ointment	Emollient, anodyne, Muc.	Tetter, herpetic affections	discretion'y
LINUM USITATISSIMUM	Flax	V.—5	113	Asia	Seeds infused	Pectoral, Dem., emollient	Diseases of the chest and lungs	freely.
LIRIODENDRON TULIPIFERA.	Poplar	XII.—13	202	N. America.	Bark in powder	Tonic, astringent, stimulant.	Dyspepsia, phthisis, low fevers	½—2 drams.
LOBELIA INFLATA	Lobelia	V.—1	75	N. America.	Powdered leaves and seed.	Emetic, stimulant, Exp.	Asthma, croup, emetics	1 dram.
LOBELIA SIPHILITICA	BlueCardinal-flow'r	V.—1	78	N. America.	Decoction	Deo., diuretic, Cath., Sud.	Dropsy, gonorrhœa	1 wineglass
LYCOPUS VIRGINICUS	Bugle	II.—1	38	N. America.	Infusion	Sedative, tonic, Ast., Nar.	Coughs, fevers, bowel-complaints	freely.
LYTHRUM SALICARIA	Loose-strife	XI.—1	163	N. America.	Powdered herb	Demulcent, astringent	Diarrhœa, chronic dysentery	1 dram.

SCIENTIFIC NAMES.	COMMON NAMES.	CLASS AND ORDER.	P'GE	LOCALITY.	PART USED.	PROPERTIES.	USES.	DOSES.
MACROTYS RACEMOSA........	Black Cohosh......	XII.—1.....	181	N. America.	Tincture of the root	Tonic, astringent, Alt., Diu..	Suppressions, phthisis, rheumatism.	3—60 drops.
MAGNOLIA ACUMINATA	Cucumber-Tree	XII.—13....	203	N. America.	Bark of the root......	Aromatic, stimulant, tonic..	Fevers, amenorrhœa, debility.....	½—1 dram.
MALVA ROTUNDIFOLIA	Low Mallow.......	XV.—13....	234	N. America.	Decoction.................	Emollient, demulcent.......	Dysentery, strangury, &c.	freely.
MARRUBIUM VULGARE	Horehound.........	XIII.—1	212	N. America.	Infusion	Stimulant, Dia., Pec., tonic.	Coughs, phthisis, pneumonia.......	freely.
MELIA AZEDERACH	Pride of China.....	X.—1.......	323	India.......	Decoction of the bark.......	Vermifuge, emetic, Cath....	Worms, verminous fevers..........	½ ounce.
MELILOTUS ALBA..............	King's Clover......	XVI.—1....	241	Europe	Decoction.................	Pectoral, emollient, Res.....	Disury, leucorrhœa, coughs.........	1—2 ounces.
MELISSA OFFICINALIS	Lemon Balm.......	XIII.—1	213	Europe.....	Infusion	Sudorific, stimulant, A-spas.	Fever, pleurisy, hysteria	freely.
MENISPURMUM CANADENSE.	Yellow Parilla.....	XX.—13....	304	N. America.	Sirup......................	Tonic, alterative, Lax., Dia.	Syphilis, impurity of blood.........	1 wineglass.
MENTHA PIPERITA............	Peppermint	XIII —1....	213	Europe.....	Infusion....................	Stimulant, sudorific, A-spas.	Flatulence, colic, nervous compla'ts	freely.
MENTHA VIRIDIS..............	Spearmint..........	XIII.—1....	214	Europe.....	Infusion....................	Febrifuge, diuretic, A-spas..	Nausea, vomiting, gravel..........	freely.
MENYANTHES TRIFOLIATA...	Buck-Bean.........	V.—1.......	78	N. America.	Leaves infused............	Tonic, cathartic, Diu., Ver..	Scurvy, rheumatisms, herpetic dis's	1—2 ounces.
MITCHELLA REPENS	Partridge-berry.....	IV.—1......	53	N. America.	Infusion....................	Emmenagogue, diuretic....	Parturition, dropsy, gout...........	freely.
MITELLA CORDIFOLIA	Coolwort...........	X.—2.......	155	N. America.	Infusion....................	Diuretic.....................	Gravel, suppression of urine	freely.
MONARDA DIDYMA	Oswego Tea	II.—1.......	39	N. America.	Infusion....................	Tonic, febrifuge, Ner., Car..	Intermittents, rheumatism, colic....	freely.
MONARDA PUNCTATA.........	Horsemint.	II.—1.......	153	N. America.	Decoction	Diuretic, diaphoretic, Ner...	Strangury, gravel, suppressions....	freely.
MONOTROPA UNIFLORA.......	Fit-root............	X.—1.......	154	N. America.	Expressed juice	Nervine, refrigerant........	Ophthalmia, epilepsy, convulsions..	discretion'y
MYRICA CERIFERA	Bayberry...........	XX.—4.....	295	N. America.	Bark of the root infused....	Ast., Sti., Det., A-spas.......	Vitiated and cancerous humors.....	freely.
MYRICA GALE	Meadow-Fern......	XX.—4.....	295	N. America.	The burrs in decoction	Sto., stimulant, Alt., A-spas..	Eruption, vitiated blood............	1 teacupful.
NEPETA CATARIA..............	Catnep.............	XIII.—1....	214	N. America.	Infusion....................	Diaphoretic, Car., Ref., Sud.	Fevers, nervous affections..........	freely.
NICOTIANA TABACUM.........	Tobacco............	V.—1.......	79	N. America.	in ointment................	Emetic, narcotic, errhine...	Piles, and painful swellings........	freely.
NIGELLA SATIVA..............	Nutmeg-Flower....	XII.—4.....	195	S. Europe..	Seeds	Anodyne, stimulant, Car....	Flatulent diseases..................	discretion'y
NUPHAR ADVENA..............	Yellow Pond-Lily..	XII.—1.....	183	N. America.	Root in powder	Astringent, tonic, Pec., Emo.	Diarrhœa, leucorrhœa, scrofula.....	1 teaspoonf.
NYMPHÆA ODORATA..........	White Pond-Lily...	XII.—1.....	183	N. America.	Root in powder............	Ast., antiseptic, Ref., Ano...	Diarrhœa, leucorrhœa, scrofula.....	1 teaspoonf.
OCYMUM BASILICUM	Sweet Basil........	XIII.—1....	215	India.......	Infusion....................	Aromatic, nervine, stimulant	Vomiting, nausea, nephritis	1—3 ounces.
ŒNOTHERA BIENNIS..........	Scabish............	VIII.—1....	138	N. America.	Decoction..................	Vulnerary, herpetic.........	Tetter, eruptive diseases...........	wash.
OLEA EUROPŒA	Olive...............	II—1.......	40	S. Europe..	Oil	Emo., cathartic, Vul., Ref...	Inflammat'n of stomach and bowels.	1—2 ounces.
ORCHIS MASCULA..............	Male Orchis........	XVIII.—1...	274	Europe.....	Salep.......................	Nutritious, demulcent	Consumption, fevers	as a diet.
ORIGANUM MARJORANA......	Sweet Marjoram ...	XIII.—1....	216	Portugal ...	Leaves in powder..........	Aromatic, stimulant, Ner....	Headaches, nervous disorders......	as a snuff.
ORIGANUM VULGARE	Mountain-Mint.....	XIII.—1....	216	N. America.	Infusion....................	Stimulant, carminative......	Flatulency, nervous diseases	1 teacupful.
ORYZA SATIVA.................	Rice................	VI.—2......	127	India.......	Seeds	Nutritious, demulcent	Weak-bowels, diarrhœa............	as a diet.
OSMUNDA REGALIS............	Buckhorn-Brake....	XXI.—1....	315	N. America	[illegible]	[illegible]		

SCIENTIFIC NAMES.	COMMON NAMES.	CLASS AND ORDER.	P'GE	LOCALITY.	PART USED.	PROPERTIES.	USES.	DOSES.
PÆONIA OFFICINALIS	Peony	XII.—3.	195	S. Europe..	Powdered root	Anodyne, A-spas., Cor.	Epilepsy, nervous affections	30—40 grs.
PANAX QUINQUEFOLIUM	Ginseng	V.—2	103	N. America.	Powdered root	Stimulant, Sto., Exp., Deob.	Nervous affections. palsy, dysentery	20—30 grs.
PAPAVER SOMNIFERUM	Poppy	XII.—1.	184	Asia	Opium	Narcotic, sudorific, Dia.	Nervous diseases	1—3 grs.
PHYTOLACCA DECANDRIA	Poke	X.—10	158	N. America.	Powdered root	Emetic, cathartic	Scrofula, cancers, ulcers, as a snuff.	discretion'y
PIMPINELLA ANISUM	Anise	V.—2.	104	The Levant	Seeds	Aromatic, Sto., Pec., Car.	Flatulent colics, cholera-infantum	10—20 grs.
PINUS BALSAMEA	Balsam-Tree	XIX.—15.	324	N. America.	Balsam	Stimulant, diuretic	Gonorrhœa, gleet, leucorrhœa	discretion'y
PINUS CANADENSIS	Hemlock	XIX.—15.	325	N. America.	Bark	Astringent, diaphoretic	In astringent compounds	discretion'y
PINUS PALUSTRIS	Yellow Pine	XIX.—15.	326	N. America.	Gum or tar	Stimulant, Diu., Ver., Pec.	Phthisis, coughs, kidney-diseases	freely.
PIPER ANGUSTIFOLIUM	Matico	II.—2.	44	S. America..	Leaves in powder	Styptic, astringent	Hemorrhage	10—30 grs.
PIPER CUBEBA	Cubebs	II.—2.	43	Java	Berries powdered	Stimulant, Car, cathartic	Gonorrhœa, urethral discharges	1 teaspoon.
PIPER NIGRA	Black Pepper	II.—2.	43	E. & W. In's	Berries powdered	Acrid, Aro., Sti., febrifuge..	Colic, diarrhœa, fevers	5—20 grs.
PISCIDIA ERYTHRINA	Jamaica Dogwood.	——	343	W. Indies..	Bark in tincture	Narcotic, anodyne, hypnotic	Toothache, neuralgia	½—1 dram.
PLANTAGO MAJOR	Plantain	IV.—1	53	N. America.	Expressed juice	Refrigerant, A-scrof., A-sep.	Poisonous wounds	1—5 drams.
PODOPHYLLUM PELTATUM..	Mandrake	XII.—1.	186	N. America.	Powdered root	Cath., Deo., A-bil., diuretic.	Venereal, bilious, and dropsi'l cases	20—30 grs.
POLEMONIUM REPTANS	Greek Valerian	V.—1.	81	N. America.	Root in decoction	Sudorific, Dia., Pec., Alt.	Phthisis and chronic liver-compla'ts	½ teacupful.
POLYGALA POLYGAMA	Ground-Flower	XVI.—6.	236	N. America.	Infusion	Tonic, laxative, Dia., Sto.	Dyspepsia, indigestion	20—30 grs.
POLYGALA SENEGA	Seneka Snake-root..	XVI.—6.	236	N. America.	Powdered root	Stimulant, tonic, Exp., Cath.	Chronic bronchitis, hooping-cough..	10—20 grs.
POLYGONUM AVICULARE	Knot-Grass	VIII.—3	138	N. America.	Infusion	Diuretic, Ner., nephritic	Severe colics, flatulency, spasms	1 teacupful.
POLYGONUM BISTORTA	Bistort	VIII.—3.	139	Europe	Powdered root	Astringent, tonic	Hemorrhage, diarrhœa, dysentery..	½—1 dram.
POLYGONUM PUNCTATUM	Water-Pepper	VIII.—3.	140	N. America.	Saturated tincture	Emmenagogue	Amenorrhœa	1 teaspoon.
POLYPODIUM VULGARE	Polypody	XXI.—1.	316	N. America.	Root in infusion	Hepatic, pectoral, Dem.	Diseases of the liver and lungs	1 teacupful.
POPULUS BALSAMIFERA	Balm of Gilead	XX.—8.	303	N. America.	Buds in tincture	Balsamic, pectoral, healing.	Coughs, debility, hemorrhage	1—3 teasp'n.
POPULUS TREMULOIDES	White Poplar	XX.—8.	303	N. America.	Bark	Tonic, astringent	In tonic compounds	discretion'y
PORCELIA TRILOBA	Paw-paw	XII.—13.	205	N. America.	Seeds in tincture	Powerful emetic	A general emetic	8—10 drops.
PORTULACCA OLERACEA	Purslane	XII.—1.	183	N. America.	Decoction	Diuretic, refrigerant	Urinary diseases, stone, scurvy	freely.
POTENTILLA CANADENSIS	Five-finger	XI.—13.	172	N. America.	Decoction of the root	Astringent, tonic, vulnerary.	Fevers, fluxes, amenorrhœa	1 wineglass
POTENTILLA TORMENTILLA.	Tormentil	XI.—13.	173	N. Europe..	Root in powder	Astringent	Diarrhœa in phthisis	½—1 dram.
PRINOS VERTICILLATUS	Black Alder	VI.—1.	124	N. America.	Bark in powder	Alt., Sub-ast., tonic, Corrob.	Cutaneous eruptions	discretion'y
PRUNELLA VULGARIS	Self-heal	XIII—1	217	Eur'e & Am.	Herb in infusion	Stimulant, astringent	Fever, diarrhœa	freely.
PRUNUS DOMESTICA	Garden-Plum	XI.—1.	163	S. Europe..	Pulp	Laxative, nutritious	Costiveness	freely.
PRUNUS VIRGINIANA	Wild Cherry	XI.—1.	164	America	Bark in powder	Astringent, tonic, Feb., Sed.	Fevers, agues, dyspepsia	10—40 grs.
PTERIS ATROPURPUREA	Rock-Brake	XXI.—1.	317	America	Powdered root infused	Tonic, expectorant	Diseases of the liver, dyspepsia	1 wineglass.
PUNICA	Pomegranate	XI.—1.	165	Africa	Bark in decoction	Vermifuge	Tape-worm	½—1 ounce.
PYRUS CYDONIA	Quince	XI.—5.	168	S. Europe..	Seed in decoction	Mucilaginous	Erysipelatous surfaces, ulcerations.	as a wash.

SCIENTIFIC NAMES.	COMMON NAMES.	CLASS AND ORDER.	P'GE	LOCALITY.	PART USED.	PROPERTIES.	USES.	DOSES.
QUASSIA EXCELSA	Quassia	———	328	Jamaica	Wood in infusion	Tonic, narcotic	Dyspepsia, gout, worms	1—2 ounces.
QUASSIA SIMARUBA	Simaruba	———	329	W.I.&Guin.	Bark in infusion	Tonic and astringent	Diarrhœa, dysentery	1—2 ounces.
RANUNCULUS ACRIS	Meadow-Crowfoot.	XI.—13.	206	Eu'pe&Am.	Root in infusion	Astringent	Formerly used for blistering	discretion'y
RHAMNUS CATHARTICUS	Buckthorn	V.—1.	81	N. America.	Berries in sirup	Drastic, hydragogue	Dropsy, rheumatism	discretion'y
RHEUM PALMATUM	Rhubarb	IX.—3.	144	China &Tar.	Root in powder	Cathartic, astringent	Dysentery, diarrhœa, &c	30—40 grs.
RHUS GLABRA	Sumach	V.—3	107	N. America.	Decoction of the bark	Astringent, antiseptic, tonic.	Venereal, gleets, scrofula	freely.
RHUS TOXICODENDRON	Poison Ivy	V.—3.	108	Eu'pe&Am.	Juice and leaves	Diuretic, Dia., laxative.	Chronic palsy	small dose.
RICINUS COMMUNIS	Castor-Bean	XIX.—15.	300	N. America.	Oil of seed	Cathartic	Inflation of the stomach, colics	½—1 ounce.
ROSA GALLICA	Red Rose	XI.—13.	174	N. America.	Petals infused and in sirup.	Astringent, tonic, &c.	Hemorrhage, mucous discharges.	freely.
ROSMARINUS OFFICINALIS	Rosemary	II.—1.	40	America	Leaves in infusion	Tonic, Aro., Ast., stimulant.	Fainting, hysterics, asthma	freely.
RUBUS OCCIDENTALIS	Blackberry	XI.—13.	174	S. Europe.	Powdered bark of the root.	Tonic, astringent	Chronic diarrhœa, dysentery	1—2 drams.
RUBUS STRIGOSUS	Red Raspberry	XI.—13.	175	S. Europe.	Leaves in infusion	Astringent	Diarrhœa, dysentery	freely.
RUDBECKIA LACINATA	Thimble-weed	XVII.—3.	272	N. America.	Decoction	Diuretic, balsamic	Diseases of the kidneys	freely.
SOLIDAGO ODORA	Golden Rod	XVII.—2.	266	N. America.	Infusion	Stimulant, sudorific	Pains in the stomach, hemorrhage.	freely.
SORBUS AMERICANA	Mountain-Ash	XI.—5.	168	N. America.	Bark in substance or infus.	Tonic, antiseptic	Fevers	10—140 grs.
SPARTIUM JUNCEUM	Spanish Broom	XVI.—10.	242	S. Europe.	Seeds in powder	Diuretic, tonic	Dropsy	10—15 grs.
SPARTIUM SCOPARIUM	Scotch Broom	XVI —10.	242	Europe	Tops in decoction	Diuretic, cathartic	Dropsy	1 ounce.
SPIGELIA MARILANDICA	Pink	V.—1.	84	N. America.	Decoction	Anthelmintic	Worms	1 wineglass.
SPIRÆA SALCIFOLIA	Meadow-sweet	V.—1.	169	N. America.	Infusion	Sub-tonic, sub-astringent.	Bowel-complaints	freely.
SPIRÆA TORMENTOSA	Hardhack	V.—1.	169	America	Extract	Astringent, tonic	Dysentery, diarrhœa	4—10 grs.
STATICE ARMERIA	Thrift	V.—5	114	N. America.	Tops and flowers infused.	Tonic, alterative, diuretic.	Syphilis	freely.
STATICE LIMONIUM	Marsh-Rosemary	V.—5.	114	America	Root in decoction or sirup.	Tonic, astringent, styptic.	Aphthæ, ulcers, debility	moderate.
STILLINGIA SYLVATICA	Queen's delight	XIX.—15.	204	S. America.	Bark of the root in tincture.	Tonic, alterative, diuretic.	Syphilis, gonorrhœa, gleets	1 teaspoonf.
SYMPHYTUM OFFICINALE	Comfrey	V.—1.	86	Europe	Root in decoction	Demulcent, pectoral, Ast.	Diarrhœa, dysentery	freely.
TAMARINDUS INDICA	Tamarind	XV.—3.	230	Ind. & Arab.	Pulp	Refrigerant, laxative	Putrid fever, jaundice	½—1 ounce.
TANACETUM CRISPUM	Double Tansy	XVI.—2.	267	N. America.	Infusion of herb	Tonic, stimulant	Fevers, dropsies, bloody urine	1 wineglass.
THYMUS VULGARIS	Thyme	XIII.—1.	218	Europe	Infusion of herb	Stimulant, aromatic	Nervous headache	freely.
TILIA GLABRA	Basswood	III.—4.	191	N. America.	Leaves, bark, and flowers.	Emollient, cephalic, Sud.	Headache, vertigo, coughs	discretion'y
TRIFOLIUM PRATENSE	Red Clover	XVI.—10.	242	N. America.	Blossoms in sirup	Emollient, anti-styptic	Old sores, scrofula, tumors	exter'y app.
TRILLIUM PURPUREUM	Beth-root	VI.—3.	132	N. America.	Root in powder	Astringent, pectoral, tonic.	Hematuria, uterine discharges	10—20 grs.
TRIOSTEUM PERFOLIATUM	Fever-root	V.—1.	87	N. America.	Bark of the root	Cathartic, tonic, diuretic.	Fevers, agues, pleurisies, &c.	20—30 grs.
TUSSILAGO FARFARA	Colt's-foot	XVII.—2.	268	N. America.	Leaves in decoction	Mucilaginous	Ulceration of the lungs, &c.	1 teacupful.

SCIENTIFIC NAMES.	COMMON NAMES.	CLASS AND ORDER.	P'GE	LOCALITY.	PART USED.	PROPERTIES.	USES.	DOSES.
ULMUS ALATA	Wa-a-hoo	V.—2	105	America	Bark in powder	Emm., Cath., expectorant	Consumption	1 teaspoonf.
ULMUS FULVA	Slippery Elm	V.—2	106	N. America.	Bark in infusion	Demulcent, Diu., Pec., &c.	All urinary and bowel complaints	freely.
URASPURMUM CLAYTONI	Sweet Cicely	V.—2	107	N. America.	Powdered root	Carminative, expectorant.	Flatulence, cold in bowels	½ teaspoon.
URTICA DIOICA	Nettle	XIX.—4	285	N. America.	Root	Stimulant, astringent, Rub	Gravel, hemorrhage, diarrhœa	½—1 winegl.
UVA-URSI	Uva-ursi	X.—1.	146	N. America.	Decoction of the leaves	Astringent, tonic, diuretic	Strangury, leucorrhœa	1 wineglass.
UVULARIA PERFOLIATA	Bellwort	VI.—1	127	N. America.	Root in decoction	Herpetic, demulcent, Ner	Erysipelas, ophthalmia, &c.	freely.
VALERIANA OFFICINALIS	Valerian	III.—1	47	Europe	Root in tincture	Stimulant, A-spas., nervine.	Hysterics, epilepsy, paralysis	discretion'y
VERATRUM VIRIDE	White Hellebore	VI.—3	133	N. America.	Extract of root	Acrid. Nar., drastic, emetic.	Gout, epilepsy	15—30 drops
VERBASCUM THAPSUS	Mullein	V.—1	87	N. America.	Leaves in infusion	Anodyne, A-spas., pectoral.	Diarrhœa, consumption	freely.
VERBENA HASTATA	Vervain	XIII.—1	219	N. America.	Leaves in decoction	Astringent, nauseating	Disorders of stomach, and fevers	1 wineglass
VERONICA BECCABUNGA	Beccabunga	II.—1	41	N. America.	Herb infused	Alterative, discutient, Diu.	Scurvy, indigestion	freely.
VERONICA OFFICINALIS	Speedwell	II.—1	49	N. America.	Herb infused	Diuretic, Dia., sub-astringent	Dropsy, leprosy, &c.	freely.
VIBURNUM LENTAGO	Nanny-bush	V.—3	110	N. America.	Bark infused	Tonic, astringent, antiseptic.	Fevers, fever-and-ague	tablespoonf.
VIBURNUM OXYCOCCUS	High Cranberry	V.—3	110	N. America.	Bark of the root in tincture.	Antispasmodic, nervine	Cramps, spasms	freely
VIOLA CUCULLATA	Blue Violet	V.—1	88	N. America.	Root in powder	Diaphoretic, Exp., laxative.	Diseases of the lungs	½—1 teasp'n.
VISCUM VERTICILLATUM	Mistletoe	XX.—4	297	N. America.	Root in powder	Antispasmodic, nervine	Epilepsy	1 teaspoon.
XANTHOXYLUM FRAXINEUM.	Prickly Ash	XX.—5	297	N. & S. Am.	Bark in powder	Stimulant, diaphoretic	Chronic rheumatism	10—30 grs.

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